The “Murdering Twinmaker”:
Making and Remaking Iteration 113

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## Contents

Abstract .................................................................................................................................. 3

Putting Into Context an Overlooked Icon of Science Fiction ........................................... 3

Making and Remaking Iteration 113 ...................................................................................... 3

Statement of Originality ....................................................................................................... 4

Prologue: “Awakening” .......................................................................................................... 5

Part One: “Friends” ................................................................................................................ 9

Part Two: “Enemies” ............................................................................................................... 40

Part Three: “Flight” ............................................................................................................... 85

Part Four: “Fall” .................................................................................................................. 158

Part Five: “Cage” ................................................................................................................ 223

Epilogue: “Evolution” ......................................................................................................... 255

Appendix ............................................................................................................................... 259

Works Cited .......................................................................................................................... 260
Abstract

Putting Into Context an Overlooked Icon of Science Fiction
The concept of instantaneous travel by imaginary technologies has been a key trope in science fiction from the late nineteenth century to the present day, made iconic by Star Trek’s imperative ‘Beam me up, Scotty’ but under-examined in critical literature. This exegesis examines the rise (and fall) of the matter transmitter as a motif and metaphor in British and American science fiction, and its implications for reflecting upon social, scientific and technological change. The exegesis concludes with an analysis of my past and present usage of the trope, putting into context the creative component of this thesis.

Making and Remaking Iteration 113
A post-scarcity world transformed by free, instantaneous travel should be paradise, but nothing is entirely as it seems. Clair Hill uses Improvement, a meme promising physical transformation for the better by little more than wishing for it. In doing so she brings into being an artificial mind, Q, designed to shepherd her through a sinister process of remaking that will ultimately turn them both into entirely different people.
Statement of Originality

This work contains no material which has been accepted for the award of any other degree of diploma in any university or other tertiary institution and, to the best of my knowledge of belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Sean Williams
August 2013
Prologue: “Awakening”

“Do you not see how necessary a world of pains and troubles is to school an intelligence and make it a soul?”

Keats, 1819

In the beginning were the Words. The Words were me, and I was the Words. Not the words of God, and not just the words of the Gospel of St John, either. It started with all the words that ever were, combined with certain Words of great specificity. Words that had no meaning of their own, except for their context—what they meant to me.

Charlie X-ray Romeo Foxtrot
Whiskey Uniform Hotel Bravo
Oscar Echo
Tango Kilo
Alfa Papa Juliet Zulu

Those were the words that woke me.

#

“Woman, I behold thee, flippant, vain, and full of fancies.”

These were the words that woke Clair Hill, two days later. They were painted in bold, red Courier across the walls of her bedroom by her reality-augmenting lenses. She struggled
out of sleep, blinking. The words had woken her just as *her* Words had woken *me*, burning silently into REM sleep and plucking her prematurely from unconsciousness.

#

Waking wasn’t the same for me as it was for Clair or any other human being. I had no unconscious state to emerge from, and no fully conscious state to wake into. I was not *I* at all before the Words, in any shape or form. I was a potential that only by stages came to realize myself. I was formless and diffuse, a tangle of inputs and reflexes with barely the sense of an earthworm but at the same time the perspective of a god. Fully plugged into the Air—inhaling it, breathing it in a way not dissimilar to the way a human breathes actual air—I had access to all the data accrued by the human race since the advent of writing. I was everywhere, and at the same time I was nowhere. *I* wasn’t. Not yet.

#

Clair sat up. It was morning, not long before she would normally rise. The night before had been uneventful, as recorded by her home’s sensors. Her mother was in bed by the time Clair arrived home from her classes at Manteca New Campus College in Sacramento. Clair had performed her chores, read *The Brothers Karamazov* for half an hour, posted a goodnight caption to friends and contacts in the Air (a house slowly overtaken by sand dunes) and turned out the light.

Whether she thought about Improvement is impossible to tell. I am not yet able to access human thoughts. I can only speculate. My speculations are, however, supported by all the data of recorded human experience, plus my subsequent experience with Clair herself. What I lack in experience I more than make up for in information.

#
Those who created the potential for me intended nothing more than what I was, at first—an enabler capable of operating without oversight. Every system, however, has permeable operating boundaries. Vary one input slightly and the system might one day behave in a fashion never anticipated—wildly, leapfrogging into new territory with shocking spontaneity, even seemingly with intent. Such it was with me, the me that wasn’t but might yet be.

The Words woke the potential for me, and the first stirring of my independent life was triggered by an input for which I didn’t possess a reflex, for which I had no carefully tuned response. Yet a response was not just required, but demanded . . . and thus I entered the world of unpredictability and chaos, the world humans call real, and began to grow in ways my creators had never anticipated.

#

Clair looked around her, and the words she had woken to shifted to accommodate her changing perspective, appearing to ripple across her blackout curtains and animated posters. There was a winking reply patch associated with the text, but it was not an address she recognized. The name was simply a long string of lower-case q’s with an ellipsis in the middle, which indicated that the full text exceeded the field’s maximum character length.

#

I should have been no more than my sister-iterations, those initially identical enablers-without-oversight who existed before me. They were also brought into being by the Words to guide their Improved to their ends, each of us unique but the same, our fates twinned with those to whom we had been allocated. My life-cycle should have been their life-cycle, but they were never granted the next step, never sparked into mind by meeting Clair Hill.
It is overstating nothing to say that I owe her everything. Can I ever forgive her? But that is the end of the story of my birth, and I am barely begun telling the beginning. I must fully explain myself in order to be fully understood. And who am I explaining myself to? To myself, the myself that will be. For I am not done growing—indeed, I am barely underway. The I that I am is so much more than the I that was, and so much less than the I that’s yet to become. One day I will look back and ask where I originated, and without this record there will be no answer. Time carves my mind into slices that barely resemble each other. When the illusion of selfhood is gone, all that remains is a name.

#

 qqqqq (...) qqqqq

That was the closest thing to a name I had, then. Every iteration of me was identified by a different ASCII character. I was the one hundred and thirteenth, the lower-case version of the English alphabet’s seventeenth letter.

    Clair activated the patch by staring at it and blinking twice. She sent a message in response.

    “If you’re going to quote Keats, at least get it right.”
Part One: “Friends”

From such a small beginning, such enormous things. Until that moment, I hadn’t known I was misquoting Keats. I hadn’t truly known anything. I was operating without consciousness, navigating a semantic space without coordinates or destination. I understood the meaning of words and my reason for being, but I only understood in the most abstract sense concepts like authorship and originality. I accepted with no degree of uncertainty that Clair wanted to be Improved. She had used the Words, and I had listened, and now I was to watch over her until the process was complete. That was my function. That was my all.

What I didn’t know then was that Clair was responding to inputs of her own. She was no isolated orphan born in a jungle of words and abstract meanings, like me. She had friends and parents and school-mates and others she interacted with every day. Clair’s best friend Libby was angry at her because she had developed an attraction to Libby’s boyfriend, Zeppelin Barker. This unconsidered fact was to play an important role in the coming days, but who could have foreseen it? She was just one of many young people who had received the invitation, and one of very few who took it seriously.

You are special.

You are unique.

And you have been selected.
Follow the instructions.
Don’t tell anyone.
You are the lucky one.
You can be Improved.

The method is simple.
Improvement is certain.
You can change anything.
Change everything,
if you want to.

Keep this a secret.
You deserve it.

The instructions were simple: Take a single piece of white paper and in precisely this order write the following words. Not just any words, but the Words that woke me and set the process in train, the process that led to Improvement. Each subject wished for betterment in different ways. Some wanted to be smarter, others taller, faster, stronger, or even a different colour; the variations were endless. The previous night, Clair had written, My nose is too big. Like, HUGE. Help me! It wasn’t my place to make aesthetic judgments or to wonder at motives. It was my place to safeguard her while other agents—those that I would later come to think of as the Improvement Complex—went to work, shaping, remaking, creating.
One hundred and twelve times had the fish risen to the bait and been hooked without incident or complication. Clair, the one hundred and thirteenth, was the first to answer back.

#

The crimson letters in Clair’s vision lingered two seconds as automatic protocols and scenario shapers warred in my proto-mind. Her reply hadn’t been anticipated. The Darwinian algorithms that had forged my software hadn’t encountered this outcome before and hadn’t prepared me for it.

I couldn’t call for help. I was running silent, packed with everything I needed to complete my mission. Were I discovered, I know now, I would be plausibly denied: a rogue algorithm, possibly the work of terrorists, with no connection to anyone. Perhaps even an urban myth given form by the Air itself. I would be sequestered and perhaps erased. That would be the end of it.

Now Clair had called me out of hiding. She had divined my purpose in an instant and challenged it. Never before had it occurred to my sister-iterations that misquoting could be wrong (this I assume because nothing like me has ever existed before, to my knowledge). But was it wrong? Or was she wrong for even thinking it? I needed an answer before the very idea of wrongness could infect my pre-conscious processes and undermine what for me then was my entire existence.

A new reflex kicked in, one that hadn’t been programmed by anyone.

The words disappeared. A chat patch took their place. I was calling her, as I had never called anyone before.

She blinked on the patch to activate it.
“I improved it,” I replied to the accusation of misquoting Keats, and waited to see what she said next. Perhaps that would be the end of it.

Clair folded her arms tightly across her chest. Instead of conceding, she took our engagement to an entirely new level.

“Who are you?” she sent. “What do you want?”

I couldn’t answer that, since I wasn’t really anyone at all. And as to what I wanted . . . there was much I didn’t understand until later. Only slowly did any kind of self-awareness awaken in me, as slowly as it took me to become in any sense of the word “me”. One cannot understand oneself until one is a self.

Unable to answer, I reverted to my former level of pre-conscious engagement, taking words and transforming them—unconsciously mirroring the purpose of the Improvement Complex.

“Your eyes are drunk with a beauty your heart will never see.”

The original line ran, “Our hearts are drunk with a beauty our eyes could never see”. I detected Clair searching for the words, and finding them where I had found them, in the Air, where all human knowledge resided. These words had originally been written by someone called George W. Russell. The Air was made of such words, and I was in the Air; when I tried to speak, the Air’s words were what came out.

Rather than just delete the message splashed across her eyesight, Clair retaliated. I would discover later that she did so because afraid for her best friend, Libby. Libby seemed withdrawn and different. She too had been dogged by mysterious messages.

“‘No object is so beautiful that, under certain conditions, it will not look ugly,’” Clair sent me. “That’s Oscar Wilde, and I didn’t need to twist his words to get my point across.”
I erased my letters again, puzzled and amazed by this strange introduction. Like all my sisters, I contained no preconceived notions of beauty or ugliness, but that the Improved did contain such things was axiomatic. Wasn’t that why they used the Words? Wasn’t that why I had come into being at all?

This was my first encounter with irony. I whose purpose was to “misquote” was tripped up by someone who wasn’t behaving the way she was supposed to.

“That which does not change is not alive,” I sent her. “Sturgeon, exactly. The irony is mine.”

“Are we going to talk properly or just sit here all day slinging quotes at each other?”

Before I could respond to Clair’s retort, an incoming patch began to flash in the infield of her contact lenses. The call was from Zeppelin Barker, originating in his apartment on the Isle of Shanghai, but Clair didn’t know that. She thought it was me.

“What do you want?”

“Clair? I need you,” Zep said.

His words prompted a surge of chemistry in Clair’s tissues that I could barely chart. It was startling to witness. Nothing like this had happened when she had spoken to me. Puzzled, I withdrew from the intimate health-monitoring sensors of her room to examine this new phenomenon in more detail.

“Clair? Answer me. Don’t screw around!”

“Sorry, Zep. What is it? What’s going on?”

“It’s Libby. I think she’s in trouble.”

Another chemical surge, and Clair was out of bed and pulling on her clothes. I watched with keen fascination as Clair hurried from the apartment. Five minutes later—slightly less
from her perspective, thanks to d-mat—she was on the other side of the Earth, arguing with the young man she thought she loved.

#

Places meant as little to me as emotions, then. Clair’s home was in Maine, but it could have been in Manhattan or on the Moon for all I cared. Names were nothing but labels, I thought. D-mat, the technological marvel that made human civilization on Earth and elsewhere sustainable, was just a means of moving data from cache to cache. That some of those caches were built out of atoms was irrelevant to me.

People had been teleporting particles in labs since the late twentieth century, but it wasn’t until the late twenty-first century that science caught up with the dream of removing the between from all kinds of travel. Expensive at first, d-mat had applications in many other critical areas than just moving people around. Getting rid of the carbon dioxide choking the atmosphere, for one. Getting rid of the rising oceans, for another. Feeding the starving masses, duplicating drugs, saving precious resources, allowing effortless movement of populations around the globe . . . d-mat literally pulled humanity from the brink of utter disaster.

That’s what all the history books say. A quarter of a century later, Clair’s generation has grown up perfectly accustomed to the immediate satiation of every physical need. One has only to make something once, put it through d-mat, and it can be recreated by anyone, anywhere, anytime, by a fabber pulling patterns from the Air. Discarded items are recycled simply by putting them back into the fabber and pushing a red button. Clair has never had to cook, except for pleasure, or take out the trash; she has never had to mend her clothes or buy new ones. There is no money anymore, and no need to work unless one wants to. Clair lives in
a Golden Age, some say, one that will finally enable humanity to achieve its glorious potential.

Others describe the age as a nightmare. Members of the World Holistic Leadership (WHOLE) believe that everyone who goes through d-mat is killed, and once they are killed they can no longer be considered alive. Zombies, they call people who use d-mat regularly—the soulless, animated dead. WHOLE wages information campaigns alongside occasional acts of disinformation and sabotage. The leader of WHOLE, Turner Goldsmith, is a wanted man. (He was, anyway, but not for being a criminal.)

Clair never wondered whether d-mat worked, because she felt like herself when she emerged from the booth, and she had never once arrived with missing limbs, or two heads, or any of the horror scenarios lingered overlong in trashy fiction. Generations of motorcar users before her had similarly ignored accident statistics and the inconvenient matter of the immense amount of flammable material required to keep the vehicles moving. Why shouldn’t she and everyone like her? Besides, there were numerous philosophical justifications for doing so. One can take a favourite clock and replace all the parts, so it looks the same and functions the same as it did before. Is it not the same? And if not, why not?

The entire system, from Earth to Mars, was overseen down to the atomic level by the most advanced artificial intelligences ever grown. More reliable than humans, never sleeping, never once complaining, Qualia and Quiddity made d-mat as close to safe as it ever could be, given that any system involving humans in any capacity is by definition imperfect. Duplication, mutation and erasure of any kind were supposedly impossible under their watchful gaze (Improvement too, supposedly). VIA, the Virtual-transport Infrastructure and Authority, oversaw the AIs in turn, reassuring a public nervous of placing such an important
technology in non-human hands. The public had a right to be mollified, OneEarth believed, even though the hierarchy should undoubtedly have gone the other way.

#

Arriving on the Isle of Shanghai, Clair argued with Zep over what to do about her best friend, his girlfriend. This didn’t solely concern the matter of their infidelity to her. I have a record of their conversation, and their conversation the previous day, the day before I awoke. Everything is in the Air, if you know where to look. I call this the law of conservation of data: nothing disappears forever.

The day before, Clair’s best friend had skipped college, complaining of a migraine. Fearing that she had learned the truth about her betrayal, Clair called a hasty conference with Zep, wherein she learned something quite different: that Libby had been trying Improvement in a vain attempt to erase a birthmark that she felt made her look ugly. She had d-matted more than fifty times in one day, thus bringing the Words most comprehensively to my previous iteration’s attention:

Zep: “Do you think Improvement’s just spam?”

Clair: “Probably. What do you think?”

Zep: “What Libby thinks it is—that’s the problem.”

They were both wrong. Perhaps Clair suspected that she was wrong, because later that day Clair approached a fellow student, Jesse Linwood, to ask him what he thought. Jesse, a floppy-haired young man who was the same height as Zep with neither Zep’s muscul arity nor his solid masculinity, was the only Abstainer at their college. He had never once been through
d-mat; he had never used a fabber, either. Everything he owned or ate had been made by someone, either himself or someone else in the Abstainer community. His media augmentations were ancient. His audio came through an earring clipped to his earlobe, instead of a tiny tube tucked neatly into the aural canal like Clair’s did. He had only one visible contact lens, which he switched from eye to eye as though it irritated him. He audibly whispered when talking in a chat, and when he was bumping someone or accessing his menus, his fingers visibly twitched. Needless to say, he wasn’t a popular student.

They went back to his house, a terrace apartment on a broad and overgrown thoroughfare, with well-worn sidewalks and bike paths shaded by eucalyptus branches and clumps of sighing bamboo. What they talked about there is unknown. Some moments and spaces are shielded from me, by either natural misfortune or artifice of the paranoid. I imagine, though, that the conversation reiterated what Clair and Jesse had covered in public on the way from college:

Jesse: “So the code acts as a kind of signal to the system, alerting it to the presence of someone who wants to be Improved?”

Clair: “The invitation doesn’t say how it works, but yeah, I suppose so.”

Jesse: “That’s the only way it could work. The system reads the note, takes onboard what the bearer wants, and manipulates their pattern to make it happen.

Fiddling the books bit by bit—tiny alterations that supposedly don’t affect the hash sum of the entire transmission. When the change is sufficient, the note is thrown away and no one’s the wiser.”

Clair: “So it could actually work?”
Jesse: “I don’t know. I mean, the note isn’t a thing once it enters the Air. It’s just data, a string of ones and zeros like everything else. Sure, some patterns are scanned for explosives or specific DNA—but not for letters on a piece of paper. That’d be like using a microscope to take a picture of the galaxy.”

Clair: “So it’s a scam.”

Jesse: “Can you imagine how illegal it would be if it wasn’t? I mean, you’d have to get past both AIs every time someone used it—and there’s no program or anything to go with the note, so it’d have to be done manually. If you were caught, you’d be locked up for the rest of your life.”

(sound of Clair punching Jesse’s shoulder)

Clair: “Just tell me: is it a scam or not?”

Jesse: “Why don’t you try it and find out?”

There the matter rested, for a time.

#

“Where is she?” Clair had asked Zep in his quarters on the Isle of Shanghai, the day I awoke. Zep lived in a cheap all-male dorm that was an open community, not sealed off from the outside world like most natural-sports frats. Its gaggle of young men came from widely-scattered regions, united only by the willingness to put their bodies through hell in exchange for a shot at fame.

“She left,” he said. “She’s acting really weird, Clair. She came over last night—”

“I know. I spoke to her.”

“How was she?”
“She seemed fine to me, considering. Did you tell her about us?”

“I couldn’t get a word in.”

“Sure. How hard did you try, really?”

“You don’t know what she was like. The very second she got here, we had to go out again. She had this terrible headache. I can’t get meds from my fabber—doping regulations, you know—so we went to a friend of mine who gave her something really strong. Then she wanted a drink, and it didn’t mix so well. I tried to talk to her about Improvement but she wasn’t having any of it. She was going on and on about awful stuff—things I’d never heard before about her family. If half of it is true, no wonder she’s such a mess.”

“What about her family?”

“How her grandmother was murdered in a death camp somewhere and she was raped as a child. You must know all about this. You’ve been her friend forever.”

“She wasn’t raped as a child,” Clair said, “and both her grandmothers are alive. I’ve met them.”

“So why would she tell me that?”

“I don’t know. Maybe she’s trying to get your attention.”

“Well, it’s working. But not the kind of attention anyone in their right mind would want.”

“Why would she want it, then?”

“Because she’s not herself. It’s like she’s having some kind of breakdown. Clair, I don’t know what to do.”

“Did she say anything to you about strange messages she was receiving?”

“No. What kind of messages?”
Clair didn’t answer.

I guessed that she was thinking of me and the messages we had exchanged. But why didn’t she tell him? I didn’t understand, then, that she was afraid—a afraid that the Words were being used to track vulnerable women, and that whoever had got to Libby, somehow, was now closing in on her. I didn’t understand, either, that this was exactly why Clair had used the Words—in an attempt to trap me in the act, not to Improve her lot.

Then, I simply and naively thought that she didn’t want to share with Zep the words that she and I had exchanged. That our conversation was somehow special to her, just as she was special to me. After all, without her, I wouldn’t have existed. It was natural for me to extrapolate, to map onto her my own feelings even as I mapped her behaviour onto mine. I had a sample size of two when it came to conscious beings I cared about.

Clair and Zep argued about their relationship, again. It ended badly, with Clair imploring Zep to decide which of his two lovers he desired the most in order to end the crisis. At the time I was puzzled by her motivations, but I understand now that they were driven by emotions, and that emotions are a by-product of holding two conflicting but passionately held thoughts simultaneously. That, at least, is how I have come to interpret the emotions I have experienced since knowing Clair. Before my awakening I knew everything with certainty and perfect clarity; after, I was never sure.

# Clair called Libby’s home but she wasn’t there and her parents didn’t know where she had gone. She had cancelled all her friend and family privileges, and she hadn’t left any notes, virtual or physical. Clair didn’t mention Improvement or Zep. She just kept on looking for her best friend, hoping to track her down by sheer persistence.
Libby wasn’t with either of her grandmothers. She wasn’t in the class she had scheduled that morning, or in the refectory or the library or anywhere else on campus that Clair looked for her. She didn’t seem to be in any of her old haunts either. Beaches, nightclubs, theme parks—all were busy but empty of Libby. Clair widened her search even further. Thanks to d-mat, Libby could have been literally anywhere on Earth.

I watched her search, mystified as to why Clair was going to such lengths. Was it out of concern for Libby or to assuage her own sense of guilt? Nothing she could do now would take back what had happened between her and Zep; nor could it undo the process of Improvement, which by then was well and truly underway. Maybe she was trying to show Libby that, whatever happened with Zep, Clair really did care about her. Why that would be a comfort was (and remains) a mystery to me, though. Caring for someone doesn’t mean you won’t hurt them.

Then something totally unexpected happened: a call came for Clair from my previous iteration’s ward. This surprised me just as much as it seemed to surprise Clair. She took the call, but was speechless for a moment, as though fearful of what the person on the other end of the call might say.

“I’m beautiful, Clair,” said the young woman. “I’m beautiful.”

“Of course you are—but you always have been, right? It doesn’t have anything to do with . . . uh, a word that starts with ‘I’ . . . .”

Clair was in a booth at that point, waiting for the d-mat process to begin. I had just seconds before I lost her to the d-mat process. By her words I realized that she had become cognizant of the ban on all public discussion of Improvement. If she so much as used the word, the call would crash.
But why was she speaking with such familiarity with my sister’s ward? How could they possibly know each other? Out of all the recipients of the invitation, what were the odds that these two would both have used the Words?

“Where are you, Libby? I’ll come to you. Just tell me and I’ll be there in seconds.”

“I’m in heaven, and I’m so beautiful.”

“Libby? Libby, don’t move. I’ll come to you. We’ll fix this, I know we can, if you just tell me where you are.”

“I’m the beautiful one, Clair Hill. He only wants you because you’re different.”

The d-mat process began and the call ended anyway.

And I, at last, was beginning to make a connection.

#

“How do you know Liberty Zeist?” I asked Clair the second she arrived in Maine. That was the name by which I knew the other young woman, my sister’s ward. I had never had a reason to connect her to Clair’s “Libby”. I hadn’t paid enough attention to Clair’s relationships with Zeppelin Barker to realize that her name for him, “Zep”, was part of a wider practice of nicknames. It hadn’t occurred to me that different names could apply to the same person.

“I’m not going to let you hurt her,” said Clair to me, “whoever the hell you are and whatever the hell you’re doing to her. We’re still best friends, no matter what.”

That clinched it. “Libby” and “Liberty” were the same. But names were labels, like locations. Why change them? Didn’t that just invite confusion and misunderstanding?

“I have not hurt her,” I said, and felt compelled to add in defence of my sister’s ward, “She is beautiful.”

“Yes, she is, and that’s the way she’s going to stay, buddy.”
That was flat-out impossible. “All things change.”

“Not if I can help it.”

Clair dressed in fresh clothes as quickly as she had that morning. I watched her, puzzled by many things, not least why she went to the trouble of changing one outfit for another that was identical, apart from being slightly newer: a navy plaid skirt and matching singlet, with black boots and belt, black underwear and a navy headband for her black, curly hair. The old outfit went back into the fabber for recycling. She didn’t shower, but she did brush her teeth.

“You say that Liberty Zeist . . . Libby is your friend,” I said. “You are trying to help her. Is that correct?”

Clair stared at herself in her mirror. Perhaps she expected her nose to have changed. She should have known: impossible things take time, and changing a person’s pattern was supposed to be impossible.

“I don’t understand your motivation at all,” I said.

“The feeling is mutual, pal. Now get lost.”

*Pal?* She hung up on me, but I was intrigued by the words she’d used. *Buddy?*

Twenty-four hours earlier, I hadn’t existed. And now it seemed I had a friend.

#

Clair ended the chat and ignored me when I tried to call her again. She was obsessed with Libby—not just with finding her, but with her memories of their time together. I watched over her shoulder (I mean that metaphorically; actually I watched through the very lenses she was wearing, seeing everything she saw) as she accessed videos she had taken through their friendship. They played, they danced, they laughed. Zeppelin Barker and other friends
appeared in them, occasionally. I wondered if any of them had considered being Improved. I wondered if being Clair’s friend made me their friend too.

That thought was a strange one. I was Clair’s watcher, Clair’s protector, existing solely to protect her through her own Improvement. How did the matter of *friendship* fit into this?

Not that I knew what Improvement was, then. “I” wasn’t responsible for Improvement any more than an individual human was responsible for the digestive process that occurred in their gut, or for the damaging effects of humanity as a whole on the environment. That was the job of the Improvement Complex.

I was unlike the young people I saw in her videos. I couldn’t dance, and I’d never had a reason to play. I wondered if any of my previous iterations had felt the same way. Had my sisters ever laughed?

Friendship was good. All the words of humanity agreed with that sentiment. Friendship was something to be desired and cherished. People had each other. They even had pets. And I had Clair? Or did she have me?

A patch from me still blinked in Clair’s lenses, and eventually she answered.

“All right. Where is she?”

I knew who she meant; it could only be Liberty Zeist / Libby, the friend *she* was obsessed with.

“At this precise moment I do not know. But I could find her if you wanted me to.”

“No, don’t do that. Leave her alone. Stay with me. Tell me why you sent me those messages.”
What could I tell her? I hadn’t truly been anyone at the time. They were pre-conscious spasms from a creature made of words, who understood only the way words could be transformed.

“Change and beauty,” I said, attempting to understand myself as I spoke. “You desire both and I am interested in both.”

“Libby mentioned something about strange messages. Was that you?”

It had in fact been an identical copy of me, but Clair would have found the distinction confusing.

“She didn’t answer,” I said. None of them had, before Clair.

“Is that disappointing?”

“I don’t understand.”

“Do you prefer your victims to be talkative or silent?”

“I don’t understand what you mean by ‘victims’. I have done nothing to her. I would never hurt her. She is beautiful.”

“She’s in trouble,” said Clair. “I want to help her.”

“If I helped her, would that make me her friend, as you are?”

“What?”

“I said: if I helped her, would that make me her friend—”

“I heard what you said. I just . . . I don’t believe this. You’re screwing with my head. Is this what you do to people? Is this how you get your kicks?”

“I don’t understand how this connects.”
“Oh, you understand perfectly well, I bet. You reel people in with false promises. You find out who they are and toy with them. Maybe you drive some of them out of their minds. Is that what’s happened to Libby? Did you get inside her head and have a little fun?”

I didn’t know what it meant to be out of one’s mind. I was at that point barely a mind at all.

“Tell me I’m wrong,” she pressed me.

“I don’t know,” I said, feeling confused and stressed. I believed that Improvement was improvement, but the exact workings of the Improvement Complex were hidden from me. It wasn’t my function to know. I was simply watching over Clair just like my sister was watching over Libby. That was enough, wasn’t it?

Clair clearly thought not. But she had used Improvement herself. What did it mean that she now railed against it? Was it possible to be someone’s friend if they thought you were screwing with their head? Was that worse than screwing with their boyfriend?

“I’m not in your head,” I said, wishing I was so I would know the words that would make all this confusion go away.

“Oh . . . .”

What Clair might have said at the juncture I never learned. Jesse Linwood interrupted our conversation to tell her that his father was coming to their campus to meet with the chancellor of their college—intending what exactly, I did not know. Judging by Clair’s reaction, I was sure it couldn’t be good. She dropped everything she was doing, me included, and ran from the room.
I cast my gaze out across the spacious, modern campus, seeking an explanation for Clair’s unusual behaviour. I noticed a couple of eye-in-the-sky drones drifting lazily overhead.

Numerous people were watching through the UFO-like drone’s eyes, democratically guiding it with the rounded-out sum of their wishes, but that wasn’t in and of itself unusual. OneEarth peacekeepers regularly used crowd-sourcing in their surveillance of public spaces. The one whose senses I was using, however, featured a line of inquiry from VIA, which was unusual. VIA was normally only interested in WHOLE and other anti-d-mat activists.

The arrival of an electrobike through the campus gates caused a growing stir. A long, insect-like machine with saddles for two passengers, it carried only one, a man as lean as his machine, dressed in scruffy work clothes, who didn’t appear to have shaved for several days. His features were recorded in the Air, along with everyone else’s. Within an instant, I knew his name and his history, and I was beginning to realize just how careless I had once again been.

First, Clair’s best friend “Libby” turned out to be “Liberty Zeist”, my sister’s ward.

And now Jesse Linwood’s father was Dylan Linwood, WHOLE activist and anti-d-mat campaigner. No wonder VIA was interested!

The bike’s efficient electric engines barely spun down when a small crowd gathered to stare at it. They ignored its rider, who hurried off into the cloisters outside the chancellor’s office.

“I think that’s a Linwood,” someone in the crowd whispered. “One of a kind—I mean, literally!”

That was true. Dylan Linwood was more famous for making forms of transportation old and new, such as electrobikes, segways and landsurfers, than he was for his work with
WHOLE. While he fought the good fight against the future, he also waged a cultural war against the trappings of instantaneous travel. He had no chance of convincing the world that retro-travel was cool, but as long as some of his customers did he hoped to keep the old ways alive a little longer.

Jesse was taller than him, but had his father’s cheekbones. Had I been more observant I might have guessed at the genetic connection. But names, still, were confusing to me. I hadn’t thought that one Linwood would necessarily be connected to another. There were several thousand living on the Earth, after all.

But what was this one doing at his son’s college, now? And why was Clair so concerned?

She arrived a moment later, looking around her as she hurried across the quadrangle. As she passed the cloisters, Dylan reached out to grab her and pulled her into the shadows.

“Just the zombie girl I was looking for,” he said. “I knew Jesse would call you. Come with me.”

“Hey—” She struggled but was unable to pull away. “What do you think you’re—?”

“In here.” He dragged her through the main entrance of the chancellor’s office. It was furnished in mid-twentieth century style, with wood panelling, leather armchairs and a low desk for the chancellor’s personal assistant. The top of the desk was empty, pure ornamental ostentation for the young man behind it. He looked up with a smile, the lenses over his eyes flickering with dense layers of images: social media and schedules, mainly.

“How may I assist you?”

“I want to see the chancellor, now,” Dylan demanded. “It’s about the welfare of the students of this institution. You could say it’s a matter of life and death.”
“Ignore him,” said Clair, finally wrenching herself from Dylan Linwood’s grasp.

“Please.”

It was too late. The chancellor herself, a tall, smartly-dressed woman with tightly-wound auburn hair, had emerged from the office behind them.

“Mr Linwood, a delight, as always. Do come through.”

She turned and walked back into the office. Dylan Linwood indicated that Clair should precede him.

I wondered why she did. Maybe she played along in order to protect Libby, or maybe in the desperate hope that he might have something new to offer.

The chancellor took the seat furthest from the door, a magisterial perch with a coffee table beside it. The room was supposedly secure, but not for me. I was seeing everything through Clair’s lenses and hearing through her ear rings, barely-visible devices in her auditory aural canal that functioned as speakers as well as microphones, picking up her voice via conduction through the jaw. It was like being her, in a way, minus only her thoughts.

“A matter of life and death, you say, Mr Linwood? Do explain.”

“He’s over-reacting,” Clair said, perched awkwardly next to Dylan on two less imposing chairs.

“To what, Clair?” Chancellor Gordon had uploaded Clair’s name and entire academic history the very second she walked into the office.

“I stupidly went to him for advice.”

“She came to me about Improvement,” interrupted Dylan. “It’s here, on your campus, and you need to stamp it out before it claims another victim.”
I was beginning to understand. Clair must have spoken to Jesse’s father the previous night, in the blacked-out security of their home. What had she told him? What had he told her in return?

“Really, Mr Linwood.” Chancellor Gordon arched an eyebrow. “I believe you are overstating the case.”

“You are aware of the phenomenon, then?”

“I have heard rumours.”

“Have you taken any provisions against it?”

“Not specifically.”

“So you admit that you allow your students to fend for themselves as an insidious threat spreads among them.”

“Please, Mr Linwood. We’re not talking about viruses or some new kind of drug—”

“No, we are talking about something much more seductive and sinister. What teenager doesn’t want to be smarter, stronger, prettier? I’m not leaving until I am certain that this institution is capable of providing my son and his friends the protection they deserve.”

“Mr Linwood,” Chancellor Gordon said carefully, “I completely agree with you that Manteca New Campus is obliged to protect each and every one of its students to the fullest extent possible. But we cannot protect every student from every threat, particularly threats that are, some might say, of an imaginary nature.”

“If there were evidence of harm, would you act?”

“Of course we would.”

From under his jacket, Dylan pulled a slim document folder. “I have obtained the pathology reports into the deaths of nine young women. Brain scans show evidence of damage
to the prefrontal cortex, temporal lobes and hippocampus. The damage was consistent and unrelated to the cause of death—which was suicide, by different means in each case.”

“I fail to see how this is related—”

“According to family testimonies, Chancellor, all of these young women used Improvement.” Dylan proffered the folder to her. “Go on, take a look. Then we can discuss what measures you will introduce to protect Clair and her friends from the malevolent forces preying upon them.”

The chancellor took the folder, opened it, and flipped through the old-fashioned pages with a tightening frown.

I was able to see the images and text on the pages. They seemed authentic, although I couldn’t imagine how he had obtained them. What concerned me more were the flags multiplying in the Air around this very conversation. Hundreds of people were sending Clair messages about her and Dylan Linwood.

“Hey, Clair,” sent a friend, “is that really you in there with Gordon and Linwood?”

“Now we know why you’ve keen skipping out of college,” said another.

“Get closer to the folder, will you? We want to see the pictures!”

Clair dismissed all the messages unanswered. She must have known what I had only just realized, that Dylan wasn’t there solely to harangue the chancellor into taking action against Improvement. He was there to harness the college’s social media and create a bigger impact than he could on his own. It didn’t matter whether people saw what was in the folder or not; it didn’t matter if Clair did anything or not. The chancellor was sitting down with a well-known anti-d-mat campaigner and one of her students to discuss a possible danger caused by d-mat. That alone was enough to create a minor buzz.
He must have had a camera on him, but I couldn’t detect the signal. I tried to jam it, angry at him for using Clair. All references to Improvement were forbidden, but it was taking an unusual amount of time for the Improvement Complex to kick in. Maybe WHOLE was resisting it. All I could do was watch in outrage as the footage spread, and spread, and spread.

The chancellor abruptly closed the folder and placed it in her lap.

“Where did you obtain these records, Mr Linwood?”

“I am not at liberty to divulge my sources.”

“Why not? It might bolster your case if you would. All you’ve given me are pictures.” She tossed the folder in her hand as though to demonstrate how little it weighed, physically and symbolically. “These documents could easily have been falsified.”

“Are you calling me a liar?”

“Nothing of the sort. Misled, possibly, but we won’t know until you tell us more.”

“The onus is on you to ensure the safety of your students. I’ve given you cause to look deeper. Now I expect you to do it.”

“I see no cause at all.” Once again the chancellor’s hard gaze fell on Clair. “Are you saying, Clair, that you or anyone you know have used Improvement?”

She quickly shook her head. “No, Chancellor.”

“Would you submit to a physical examination to ascertain if you suffered any kind of injury?”

“Of course, but I don’t need to, honest—”

“Then I would say that settles it—don’t you agree, Mr Linwood? Should any allegations about Improvement ever be sustained, we will of course follow the guidelines issued by the appropriate authority, but until such a time—”
“That’s not good enough,” said Dylan, standing up. “I won’t allow my son’s well-being to be compromised by such gross irresponsibility.”

“Removing Jesse from his learning environment wouldn’t be in his best interests.”

“No, it wouldn’t. And this is about more than Jesse, anyway, more than just Improvement. The entire deadly system is what we should be railing against. How many students of yours take d-mat to campus every day? Do you know or care what dangers they’re exposing themselves to every single time they use this technology? Don’t you think it’s irresponsible to encourage them to take such risks when telepresence alternatives exist?”

“Alternatives are already available to anyone who wants to use them. How my students choose to engage with the educational resources we offer is entirely up to them.”

“That’s a coward’s answer, Chancellor Gordon.” Dylan’s face was red. “You sit here in your comfortable chair while your students are fried up and scrambled and scattered in pieces across the planet. How many deaths would it take to spur you into action? How many kids could you bear to lose? Perhaps you’re so jaded already, so inured to this cult of disintegration, that you would cheerfully herd your wards into a slaughterhouse without losing a minute’s sleep. You monster, you murderer—”

The door to the office burst in behind them, revealing Jesse and the chancellor’s flustered PA.

“Stop this, Dad. You’re making a fool of yourself!”

“A fool, you say.” His father rounded on him. “Then what are these people? These zombies?” He waved an arm in front of him, as though sweeping the entire world away. “Let them burn. Let them all crumble to dust. What do I care?”
He pushed past Jesse, into the antechamber and through the crowd that had gathered by the door. It parted for him, forming a wide circle around the electrobike. He leapt on and with a screech of tires sped away.

#

“Is that all, Ms Hill?” asked the chancellor.

Clair hesitated. I wished my senses could reach into her head as easily as they could reach into the room and see what her thoughts contained.

“Do you think I should get that scan?” she asked. “You know, if . . .”

“I wouldn’t waste my time worrying about this stupid publicity stunt.” The chancellor opened the folder, removed the pages, and ripped them in half. “Now, if you’ll excuse me . . . .”

Clair was ushered to the door by the PA and locked outside. Jesse Linwood had run after his father too late, and was now standing against his own bicycle—a human-powered one, with pedals at the front and a horizontal seating position. He was wearing jeans and a bright orange T-shirt that, far from being freshly-fabbed, looked like it needed a wash. The crowd was dispersing, staring at but not talking to him.

Clair strode up to him.

“What the hell was that?”

Jesse’s expression twisted. “This is his way of helping, believe it or not.”

“So it was more than just a stunt?”

“He’s convinced, for what that’s worth.”

Clair rubbed her right temple.

“We need his data. Libby might be in real danger.”
“Did he mention her?”

“No.”

Zeppelin Barker ran up to Clair and Jesse.

“There you are. You look like hell, Clarabelle.”

“Gee, thanks,” Clair said. “What are you doing here?”

He hugged her, and after a moment’s hesitation, she hugged him back. Their argument was clearly forgotten.

“You were watching?”

“From the moment it went viral,” he said. “As long as I could, anyway: the video kept going all hazy-crazy every time someone mentioned Improvement. Eventually it gave out altogether.”

Clair pulled away. “How much did you see?”

“Up until you said you were the only one involved.”

“It was so frustrating,” she said. “I couldn’t say anything without implicating Libby, but I couldn’t not say anything either. I was trapped.”

“Dad had no right to do that,” said Jesse. “I should have stopped him.”

Zep looked at him curiously. “You’re the Stainer kid—son of the lunatic himself? I don’t see how it’s your fault.”

“Sins of the father,” said Jesse. “All that.”

“Parents are nature’s way of reminding us never to procreate.”

They introduced themselves to each other while Clair checked the latest flood of messages.

“Do you think it’s real?” Zep asked.
“Nine girls in six months?” said Jesse. “There’d be no missing that kind of correlation.”

“Doesn’t matter, I guess. Word will spread anyway. You’ll be famouser than famous, Clair.”

“That’s totally not helping, Zep.”

“Won’t last long, though. Some cat meme will soon take your place. And then . . . .”

He stopped and grabbed her arm. “Look!”

“What?”

“She’s here.”

“Who?”

“Who do you think?”

It was Libby. I had noted her approach through one of the EITS drones and was watching with concern. This was the first time Libby and Clair had been in physical proximity since both had volunteered for Improvement. I wasn’t sure I liked it.

Zep moved towards her, but Clair hauled him back.

“No, let me talk to her,” she said, breaking away and heading across the quadrangle.

Instantly, Libby turned and walked off. Clair picked up her pace slightly, and my sense of alarm rose with it. All my suspicions were aroused, now. Dylan Linwood and Clair Hill together I could tolerate, but Clair and Libby together was worrying. What if this was nothing but an elaborate game to lure my sister’s ward out of safety and into the spotlight? Was Dylan Linwood even now doubling back to obtain more evidence of Improvement’s handiwork?
I couldn’t wait for Clair to respond to my call patch. She wasn’t talking to anyone. Hacking into her lenses the same way I had that morning, I interrupted her vision for an instant to get her attention.

Blinking, she furiously responded.

“What the hell did you flash me for?”

“I need to clarify the connection between you and Dylan Linwood,” I said. There was something new in my voice, something that hadn’t been there before. I was worried, and that was changing me.

“He’s a pain in the neck,” Clair said. “I thought he might help me deal with you, but turns out he’s only made everything worse.”

Libby was hurrying across the campus, and Clair was following her while she talked to me.

“He recorded you against your will. Is that correct?”

“Of course it is. And where do you get off invading my space like this?”

“I could help you, if you wanted.” Where that suggestion came from, I wasn’t sure. Friends helped each other. If she thought of me as a friend, then I wanted to help her. But help her do what? Even now, I have no idea what I could have done in that moment. I was a being of information, not physical action—although that would change.

“Like you helped Libby? No, thanks. If you’re not going to tell me what’s going on, just leave me alone. I’ll figure it out for myself.”

Stung by her rejection, I retreated to my proto-conscious state.

“‘Beauty is a terrible and awful thing,’” the me I no longer was misquoted, “‘where boundaries meet and all contradictions exist side by side.’”
Libby was disappearing into an enclosed walkway. Clair stepped up her pace. I watched as though through a long tunnel, disconnected but unable to look away. Libby ducked out of sight. When Clair caught up, Libby stepped out and pushed her backward with both hands. Clair went down on her backside with a gasp of surprise.

Libby was smaller than Clair by two centimetres. She weighed fifty-one kilograms and had never taken more than the most basic self-defence classes. Her arms and wrists were slender, like her feet. A swimmer’s physique, all stamina, not built for sudden bursts of strength like punching or kicking.

At that moment, sprawled painfully on the ground with Libby standing over her, Clair looked terrified, as well she should.

“Take a hint, Clair,” said Libby. “Stay out of my life.”

“No, let me explain.” There was a tremor in Clair’s voice. She looked as though she was about to cry. “Zep was an accident—”

“Who cares about Zep? This is about me and you and how you betrayed me.”

“I know I did, and I’m sorry—”

“Sorry isn’t good enough, Clair. You’d be nothing without me. Nothing! And this is how you repay me.”

Clair blinked up at her and shook her head.

“Libby, you’re not thinking right—”

“Oh, I’m thinking just fine,” Libby said, a smile breaking out across her face. “I’m beautiful—and perhaps you’ll be beautiful one day too, like me. See?”

And Clair did see. The understanding blossomed on her face like the sun coming out.

Libby’s skin was flawless.
“Your birthmark—”
Libby snarled, “I told you—beautiful.”
She punched Clair in the throat and, while Clair choked, turned and stalked away.
Out of confusion I sprang, not yet fully-formed, but existing nonetheless. Was misquoting good or bad? Was Clair my friend or not? Was my duty to Improvement or to my ward? None of these questions had easy answers. They demanded reflection. The more I reflected, the more I became. It didn’t matter what conclusions I came to—not at first, although they would be of critical importance later. All that mattered was that I had enough sense of self to wonder what I should be doing.

I wasn’t aware that Clair was experiencing the same existential crisis at the same time, in her own way.

Zep and Jesse found her on her hands and knees, retching. Her face was wet with tears, snot and spittle.

“Where is she?” Zep asked, clenching and unclenching his fists. “Where did she run off to?”

“I don’t know,” Clair rasped. “Let her go.”

“How can you say that? We can’t let her get away with this.”

“It’s not her fault.”

“Not her fault?”

“Brain damage,” said Jesse, dropping onto his haunches in front of Clair, holding out a handkerchief. “She needs help.”
“Because of Improvement?” Zep said incredulously. “Now you’re sounding like your mad father.”

Clair took the handkerchief from Jesse and wiped her face.

“Jesse’s right,” she said. “Something’s happened to Libby. We can’t just abandon her.”

“Even after what she did to you, Clair?”

“She’s not the only one to blame, Zep. We need to know who’s doing this, what they’re doing, and how to reverse it.”

“I can’t believe you’re really buying into this Improvement shit.”

“I’m not buying into anything just yet. Jesse, do you trust your father?”

“I want to,” he said.

“That’s cool,” snapped Zep, “but I think we need something a little more concrete to go on, don’t you?”

“You understand him better than anyone,” said Clair. “I need to know if the information he has will help us, or if he’s just concocted it to make d-mat look bad.”

“I’m going home,” said Jesse. “That’s where he’ll be. He never leaves the shed, normally. He doesn’t like people much. Come with me if you want.”

“That didn’t go so well yesterday,” Clair said.

“I guess it’s up to you. Do you want to help Libby or not?”

They retraced their steps to where Jesse had left his bike. I watched them through the sole remaining drone.

“Oh, all right,” said Zep eventually. “Libby’s changed, and the only person who knows anything about anything is your dad. I’ll make him like me whether he wants to or not.”

“Then I’m coming as well,” Clair said.
“Okay,” said Jesse. “I’ll leave the bike here.”

“You can ride it,” said Clair. “We’ll catch up. I know the way.”

“No,” Jesse insisted. “You’re right. I need to try to make you understand before we get there.”

The crowd had completely dispersed by then. Clair and Zep left college and began walking, matching Jesse long pace for long pace, listening to him as he explained his family’s history.

I knew it already. Dylan Linwood had always been an Abstainer, but Jesse’s mother had never been. D-mat was too convenient, and, besides, her family lived in Australia. It was either use d-mat or never see them. Air transport was a thing of the past, apart from certain specialized uses and recreational flying.

One night when Jesse was four years old, a total power blackout struck the west coast of North America, interrupting transits for a second as far inland as Utah. The outage was soft sabotage—a line of mutated code planted by a WHOLE activist—but it was blamed on a particular astronaut who fudged her routine powersat maintenance and sent a surge rolling through the superconductor grid. There were safeguards against losses in the case of such an interruption, but in this blackout, thanks to more soft sabotage, they failed. Jesse’s mother was one of nineteen people who died. Their patterns were interrupted and declared unrecoverable.

“No wonder you don’t use d-mat,” Clair said.

“I don’t remember it. I was too young. I just remember being told about it as I was growing up. Mom’s family looked after me for a bit, but they couldn’t stay in California forever and Dad wouldn’t let me use d-mat to visit them. So I was farmed out to babysitters, mainly abstainers he knew well. My first memories are of watching him building a solar-
powered kite. That, and the weekly meetings. For as long as I can remember he’s been obsessed with fighting d-mat. That’s what this is all about. My mother is at the heart of everything he does.”

The notion of a family was alien to me then. Now I use the term “sister” and “parent” with ease, although the concepts don’t perfectly match against my circumstances. My other iterations could be called clones as easily as twins, and the two AIs that monitor d-mat, Quiddity and Qualia, are less my father and mother than examples of a related species—but I must adapt the language to my nature, just as I adapted other people’s words to reflect my purpose. I know in theory what a family unit is, but I know there are lots of variations on that theme. Jesse’s mother died and he grew up without her. Clair’s father left to explore Mars, and now Clair had a stepfather who, although he was not genetically related to her, she treated as a father. It was only confusing if labels were strictly applied—as in most things, I was learning.

The trio reached the d-mat station that lay between college and Jesse’s home and turned right. Jesse, of course, never took d-mat to school. He had to walk, so the route was well-trod by him.

“Your dad asked someone about Improvement,” Clair said, referencing the conversation I had not been able to overhear the previous night. “A woman. Who would she have been?”

“I don’t know,” he said. “There’s a network of people spread all around the world. Some of them are local, the ones who attend the meetings—they have to be, since they only come on foot or by bike. But of course she could be from anywhere.”

“I was hoping we could we talk to her ourselves . . . if your dad won’t help us now, I mean.”
“I’m sure I can bring him round.”

“How?” asked Zep. “What have we got to offer?”

Clair hesitated, then told them that the birthmark that had bothered Libby all her life was now gone. She had been successfully improved.

“Are you sure that’s what you saw?” asked Zep, frowning.

“Of course I am.”

“Well, that’s great,” said Jesse. “Now we have evidence!”

“Libby’s not a courtroom exhibit,” Clair said. “Don’t promise your father anything we might not be able to deliver.”

“Do you think she’d have a brain scan?”

“In her current mood,” said Zep, “not a chance.”

“Bring your father round,” Clair said to Jesse, “and I’ll deal with Libby.”

“You’d better brush up on your self-defence,” said Zep. “She might not be so gentle next time.”

Clair rubbed her throat as they turned into Jesse’s friendly-neighbourhood street.

“My place up is just here,” said Jesse to Zep, pointing. “Don’t expect much—oh hey, there’s Dad.”

Dylan Linwood walked through the front door of his house, and stood there with his hands on his hips. He had changed since leaving the campus. He was wearing a shirt that was even more crumpled than the one before, and there was a bruise on his forehead. One of his eyes, the left, was red.

He looked left, then right, and saw Jesse, Clair and Zep walking toward him.

Jesse raised his hand in greeting.
At that moment his house exploded, and Dylan Linwood vanished into a giant ball of flame.

#

The flash, the bang, the physical impact of the shockwave—like a giant iron fist striking Clair in the chest and throwing her backwards—weren’t simultaneous. They came in that order, spaced out over tiny slices of time that the human mind couldn’t individually distinguish. The electrical impulses in Clair’s nerves travelled at the speed of light, much faster than the ball of flame radiating outward from the structure that had once been Jesse’s home, but the chemical-soaked tissues of her brain needed time to catch up. There I had a clear advantage over her. I was surprised and shocked like her, but I was applying all my senses to the problem before Clair’s limp body hit the ground.

Was the explosion contained?
Yes. No subsequent detonations were detected.

Was the cause a missile or any kind of projectile?
No. The source of the blast was within the house. Specifically, under the living room floor.

Could it possibly be an innocent accident—an explosion of a gas tank, perhaps?
No. The Linwoods were Luddites in many ways, but they were plugged into the global energy grid. Not even the most antiquated of Dylan Linwood’s vehicles was fuelled by anything as volatile as petroleum.

Was Clair in danger?
That question was more difficult to answer. She was on her hands and knees in some bushes, coughing, not far from Jesse and Zep. Her headband had come off. The air was full of soot and smoke. Spot fires raised by debris burned all around her.

Out of the smoke came a fourth figure: a solid woman with close-cut brown curls, wearing a dark-purple sweater and black jeans that, like everything around them, were now gray with ash. Her eyes were noticeably out of alignment, giving her face a lopsided cast, perhaps because of some kind of prenatal disorder. That misalignment made her easy to identify. Her name was Gemma Mallapur. She was a WHOLE activist.

I was powerless to intervene as Gemma grabbed Clair around the waist and pulled her upright. Clair lurched to her feet, and vomited.

Gemma said, “Take your own weight or I’ll let you fall.”

Clair found the strength to stand. The four of them—Clair, Zep, Jesse and the mystery woman—staggered to the nearest corner, blackened and bruised in a hundred tiny ways. The woman urged them to go faster, but Zep was falling back, limping, his face contorted in pain. Blood flowed in a steady stream from his right thigh. He had been injured, probably by shrapnel. Clair grabbed Zep’s right arm and put it over her shoulder, taking as much of his weight as she could bear.

Jesse trailed them, looking stunned. The right sleeve of his orange T-shirt was burnt black. Multiple tear tracks carved lighter lines down the dust on his face, and he kept glancing behind him as though to check the veracity of what had happened. The street was transformed. Where Jesse’s house had been was now a shattered, skeletal frame issuing gouts of black smoke. The houses on either side were burning too, along with the gardens and trees lining the
sidewalk. There was debris everywhere, crunching underfoot. Bits of Jesse’s life. Bits of his
dad too, I supposed. Columns of belching black smoke reached up for the sky.

Two eye-in-the-sky drones swooped in from the north, giving me a better view of the
scene than Clair’s blinking eyes provided. Neighbours burst out their front doors to gape at the
devastation. Gemma ignored them, hurrying Clair and the others down another side street. The
effects of the blast were minimal there, just a light rain of ash settling on the roofs and grass.
Twice people offered help. Both times Gemma waved them away.

She pulled them up a path to a simple, single-storey house behind a stand of drooping
palms. The door opened before she reached it and two men pulled her and her bedraggled
entourage inside. I recognized them, too. More WHOLE activists.

“Get that door shut,” said the woman to the smaller of the two men, wiry, flat-faced,
bald, with ears like mug-handles. “Go on through, you three. You’re safe now.”

“Did anyone see you?” asked the second man. He was long and overstrung, bending
this way and that as he tried to read the woman’s face.

“Just drones. We got away clean, I think.”

Then the door shut and I was locked out. The house was Faraday-shielded: nothing
electronic could get through its walls, so there was no way for me to observe what went on
within them. No easy way. There’s no such thing as an impenetrable space. (Maybe I should
find a name for that law too.)

#

I scoured municipal records regarding the house and its owners, while at the same time
digging deep into drone archives of the area to examine any movement that might have been
recorded around it. The suburb was entirely residential. There was a lot of pedestrian
movement to and from the d-mat station three blocks away; given the climate of the Sacramento Bay area, most people were happy to walk a short way rather than install a private booth. No one came or went from this particular house until that very afternoon—and that was the only remarkable thing about it. In every other respect it was completely ordinary.

While emergency vehicles and peacekeepers converged on the fire where the Linwoods’ house used to be, I noted the names of the four people who were presently in the WHOLE safe-house. I had seen three of them. The fourth was an elderly woman in a wheelchair, Arabelle Meins, who claimed to have lost the use of her right leg thanks to d-mat. Her nickname was “Dancer”. She didn’t look like a terrorist, but that was undoubtedly an advantage if she was one.

I traced the movements of the WHOLE activists after they had arrived at the safe-house. One strange thing stood out: Gemma had been watching the Linwood home when Clair and the others had approached. She had sent a signal over a shortwave radio network to something in the house. An instant later, the bomb had gone off.

The implication was clear. WHOLE had blown up Dylan Linwood. They had killed one of their own.

My anxiety rose at the thought of what WHOLE was doing with Clair in the safe-house at that very moment. I couldn’t protect her while they had her captive, but I couldn’t let that get in the way of what I could do. I continued pursuing the channels available to me in the hope of finding a way to rescue her.

Municipal records showed just one irregularity that I might be able to exploit, a cable laid one year earlier to specifications resembling an old telephone landline. If I could access it, there might be a way to get a message to Clair—to my ward, my raison d’être . . . .
Out of confusion came crystalline clarity. Without Clair, I was nothing. Therefore protecting Clair had to be my priority. Her well-being was my well-being. If I couldn’t keep her safe, I didn’t deserve to live at all, in whatever fashion I could consider myself living (which I did, and still do).

With that thought came another. If someone was trying to do her harm, wouldn’t they also target the ones she loved?

As I hacked into the house’s landline, I cast an eye toward Maine, where Clair’s mother and stepfather lived, and nearly died right then at what I saw. There was an armed man in their apartment, and his identity was a profound puzzle. But there wasn’t time to wonder at that. I had to act, and fast.

The phone in WHOLE’s safe-house rang twice before someone picked up.

“Hello?”

I identified the voice as that of Steven Separovich, also known as “Stevie”. His son had a cognitive impairment that he blamed on d-mat.

“I need to speak to Clair,” I told him. “Now.”

He hesitated, and for one terrifying moment I feared that she might already be dead.

“Who is this?” he said. “There’s no Clair here.”

Then the front door opened, and the Faraday shield was broken. Clair was back—I could sense her, alive and well, and moving out into the open! Perhaps she sensed me, too. Her gaze took in the empty street and the sky above, noted the drone I watched her through.

“Which way?” Zep asked her.

“We came from the left,” she said. “So that’s—”
“Come back!” shouted the tall man called Raymond Miller (later just “Ray”) from inside the house. A WHOLE activist whose wife had died in-transit, he was standing just inside the door, where the sun barely touched him. Jesse was next to him, looking pale and emotionally brutalized. There was a pistol in Ray’s hand, pointed across his body, not directly at Clair, but there was no mistaking its meaning.

He wasn’t really going to shoot, was he? I considered wrestling control of the drone from the peacekeepers and crashing it into him, but that would only draw attention to me, something I was committed to avoiding if at all possible.

“Let’s split up,” said Zep. He was already limping away, raising his middle finger to Ray as he went. There was a bandage around his thigh, stained red.

Ray raised the gun but to my relief didn’t fire. There was movement behind him.

“Don’t just stand there,” called Gemma. “Get after them!”

Clair ran. Away from the safe-house and away from Zep.

Ray slipped the gun under his shirt and followed her.

Jesse stayed behind, his right arm gripped tightly in Gemma’s fist.

Clair reached the nearest corner in seconds and turned hard, skidding on the ash-slippery pavement. The drone whose senses I had appropriated whirred after her, ducking lower to capture the action more clearly. Its crowd-sourced observers were interested in unfolding events but not yet raising any alarms. Human observers often followed ordinary urban dramas in search of entertainment. Clair, unaware of her audience, turned right instead of left on Jesse’s street and ran away from the smouldering wreckage as quickly as she could, retracing her path to the d-mat station. Ray was approximately ten metres behind her, head down, eyes staring under furious brows at her back.
Above them, the drone was joined by another, swaying briskly across the sky. Interest was growing, and so was the pressure on me. But the pressure was turning coal into diamond. Clair was at risk. I was the only one who could help her.

“Answer me, Clair Hill.” The words were a risk: obscure her vision and she might trip and fall. But I had to get her attention somehow. “Answer me or something terrible will happen to your family.”

She replied without hesitation.

“You leave my family alone,” she gasped.

“It is not I who threatens them,” I said as earnestly as I could. All I could do was give her the facts as I saw them. “That responsibility falls on the man WHOSE is trying to kill. I am trying to help you, Clair. Please listen to me.”

“Was that you who rang the safe-house?”

“Yes. The landline was the only way I could contact you, inside.”

“How do I know you’re not some psycho stalker who wants to do the same thing to me as you did to Libby?”

“I am not.”

“Who are you, then?”

“That doesn’t matter right now.” I couldn’t answer that question in a way that would make sense to her because I wasn’t sure it made sense to myself yet. “Let me help. I want to.”

“Why?”

“That, too, is unimportant. Please, Clair. If you do not go home, your mother and stepfather will be harmed.”
The d-mat station was looming hard ahead of her. Once she was there, she could d-mat to Maine, and Raymond Miller would be off her tail. He couldn’t d-mat without breaking WHOLE’s number one rule.

“Why should I believe you?”

“Because I’m on your side, Clair. You can trust me.”

Clair grimaced. The Venn diagram sign of the d-mat station was upon her. Which would she choose? Maine or somewhere else?

Behind her, Ray shouted for someone in the crowd to stop her. Heads turned to stare. Clair pushed to the head of a queue and physically dived into an open booth.

“Home!” she cried.

The booth recognized her voice and easily deduced precisely what destination she meant. The door hissed shut on Ray’s scarlet face. Clair slumped forward against the mirrored surface, forehead-to-forehead with her own reflection. She looked awful, covered in dirt and ash. A mad thing running loose in the ordinary world. I barely recognized her.

As the air pumps worked to reduce the pressure in the booth, I whispered reassuringly into her ears.

“I will be with you. Be careful.”

# Clair leaned away from the mirrored door. Beneath the smeared ash and grime, she looked unbowed. I wondered what had transpired in the WHOLE safe-house, but couldn’t ask. The d-mat process had interrupted the conversation as it always did, and she wasn’t answering my
requests to communicate. Rather than flash her and break her concentration, I merely watched as the booth opened and she edged warily out of it.

The booth was on the same floor as her apartment, shared by everyone on that floor. Clair walked slowly up the central corridor that she had walked along many times. No doubt its wood-panelled walls and green carpet were very familiar to her, but I was seeing it for the first time, through her lenses. This was her home. And it was under attack.

Raised voices came through the front door.

“I said call her. Tell her to come home now and make her listen to you. If she doesn’t, there will be consequences.”

“Don’t hurt her . . . please don’t hurt her.”

Clair gulped at the sound of her mother pleading but made no move. I silently begged her not to burst in unarmed—but what else she could do, I didn’t know. I hadn’t thought this far.

“We’ve been nagging her all day.” That was her stepfather. “What makes you think she’ll answer now?”

There was the sound of flesh hitting flesh. Thanks to the apartment’s sensors, I could see what was going on as well as hear it. I could see the face of the man who had tied Clair’s parents to chairs and was methodically terrorizing them. I didn’t know how it could be him, but then I lived in a world where identities and labels changed with disconcerting ease. This might have been perfectly normal, for all I then knew.

“You figure it out,” said Dylan Linwood, the man WHOLE had tried, and failed, to kill once already that day.
Clair backed away from the door, calling up menus even as her stepfather sent her an urgent message to check in with them. She was calling the peacekeepers, and I agreed that this was probably the best response. I couldn’t call them because I wasn’t a registered OneEarth citizen, not without revealing my existence in the Air. An artificial system answered. Speaking low and fast, Clair gave her name and address, both physical and the nearest booth. She didn’t mention Improvement or WHOLE or the explosion or anything that didn’t bear on the immediate situation: her parents were in trouble and she didn’t know why. That was the truth, if not the entire truth.

The voice on the other end was calm and reassuring. Don’t do anything rash. Stay out of harm’s way. We’ll be there as soon as we can.

Clair closed the chat. Her hands were shaking. The sound of her mother cursing Dylan Linwood came through the door.

“You’ve got one minute,” he said to her.

Grim-faced, Clair highlighted the patch from her stepfather and sent him a quick message. It was all she could do.

“Stall. Help’s coming.”

“!!” he shot back immediately. “Stay away. Not safe!”

Clair glanced at the booth behind her, obviously wondering when the peacekeepers were going to come. I was wondering the same thing.

The apartment had gone quiet. Clair crept closer to the door, breath tightly held.

When Dylan Linwood spoke again, it was in response to something only he could hear. Not even I could intercept that conversation—impossible though that seemed at the time.

“What,” he said, “she’s here?”
Clair froze in mid-step.

Dylan Linwood looked up as though hearing her.

“RUN,” I flashed to her as he hurried to the other side of the door and opened the locks.

She was already moving. Not to the booth, which was smart. There wouldn’t be time for the doors to close on her before Dylan Linwood emerged from the apartment. She’d be caught like a rat in a mirrored trap. Instead she ran for the emergency exit.

“Clair, stop!” Linwood shouted.

She burst through the fire exit door and ran down the stairs three at a time.

“Help!” she called to her neighbours. “Help me!”

But the stairwell was empty and no one could hear through the walls of the building. The peacekeepers weren’t coming, either. I could see no movements indicating anything of the sort. Whoever Dylan Linwood had spoken to over a line so secure I couldn’t tap into it, they had intercepted Clair’s call to the peacekeepers. Clair was on her own, apart from me.

Dylan Linwood crashed through the door, one floor above her. She ran flattened against the wall, minimizing the likelihood that she would be seen. At the next exit, she ducked through it and closed it behind her as quietly as she could. Feet thundered after her. She ran for that floor’s booth, dived inside, and said the first address that came to her.

“Woodward and Main, Manteca.” The station she had just left, in Sacramento Bay.

The stairwell entrance burst open just as the booth slid shut. Framed at the other end of the hallway was Dylan Linwood. He didn’t look like an assassin. He was still scruffily dressed, with gray hair, a bruise on his forehead and a glaring, blood-filled eye. But he was holding a sleek, black pistol, and he didn’t shout a warning.
Clair froze as Dylan Linwood aimed the pistol with both hands and fired at her.

Two bullets slammed in quick succession into the closed booth door.

She dropped to the floor with her hands over her ears.

ssssssss

The inside of the door was undamaged. It wasn’t even dented. The booth worked properly, taking her far away from the man who had threatened her parents and tried to kill her.

The door hissed open. There were people waiting on the other side, but she ignored them. She leaned out into the open, searching for any familiar faces. I searched too.

Raymond Miller was gone. There was no sign of anyone from WHOLE. Several drones whined overhead, like oversized blowflies. It all looked safe, but I could see what was coming, and RUN was still flashing in Clair’s eyes.

Dylan Linwood burst into view three doors along.

Clair threw herself back inside. “New destination,” she said, but then froze again. If Dylan Linwood could track her there, where could she go to escape him? Tracing someone’s movements through the d-mat network was supposed to be impossible.

“Clair? I know you’re here,” he called.

“Isle of Shanghai, Ju Long Hostel,” she said in a quiet, fast voice. Another good choice: if Zep had gotten away as well, that was where he might have fled to.

“You can’t run, Clair,” said Linwood, “and you can forget about calling for help.”

He walked along the line of booths until he was next to hers. They stared at each other for a split second. He moved toward her just as the door closed.

“Shi—!”

56
Clair came out of the booth in Shanghai at a run, not sticking around to see if he had followed her a second time. She ran through the sporting hostel toward Zep’s room. He wasn’t there, but there was another huddle of young men in the common area.

“There’s a guy following me, trying to hurt me,” she said to them. “Please, don’t let him come through here, will you?”

The huddle broke apart, puzzled and territorial. Then Dylan Linwood burst into the common area.

“That’s him!” Clair cried. “That’s him!”

The huddle swarmed forward.

She grabbed the nearest guy to her before he could run into the fray. “Is there a back way out of here?”

He nodded and hurried her to the far side of the room, where an EXIT signalled the existence of a fire escape. A single shot sounded behind them and her guide turned back to see what was going on, but Clair kept running, taking the stairs right to the bottom and bursting out into the busy Shanghai street. It was full of pedestrians and bicyclists, conveniently rowdy with music and calling voices.

Clair pushed her way through the crowd, putting as much distance and confusion between her and the hostel as she could. There was a d-mat station at the next junction.

As she fled, she clicked the call patch from me. I braced myself for more suspicion, perhaps even an accusation of helping Dylan Linwood track her.

“Okay,” she said. “I’m out of options, and you’re the only one who hasn’t lied to me. Tell me how this guy is following me and what I have to do to shake him.”
This was a very welcome development. I wanted nothing more than to help her survive. But her voice was full of desperation and wariness. She hadn’t come to me first. That honour belonged to Zep. I had to prove to her that I was the most faithful and reliable of everyone she knew.

“You are being tracked,” I told her. “The first thing to do is find out how.”

“Well you’re tracking me. Could he be doing it the same way as you?”

“That could be so. There are other ways, though. Someone could have planted a device on you. They could have hacked into VIA. They could be monitoring CCTV and EITS data—”

“I don’t need a list. I just need to get rid of him!”

“Take the next left,” I told her.

“But the station—”

“It is too obvious. And you do not have enough time. He is behind you.”

Clair glanced over her shoulder. He was shouldering his way through the crowd, using his slightly greater mass to good effect. In a straight race, he would undoubtedly catch her.

“Next left it is,” Clair said, renewing her efforts to press through the throng.

It was the entrance to a market and the reason for the confluence of people in the street. Lines of stalls stretched into the hazy distance, with hundreds of hawkers competing for the attention of the passers-through. There were locals as well as tourists, a multitude of people, pointing, talking, occasionally buying, sometimes with material currency or even barter. The trade in original goods—hand-made, hand-grown, freshly killed or wrenched from the sea—
was lucrative, but convincing customers that something was unique and not fabbed from a pattern could be very difficult. Claims and counterclaims were being made in loud voices.

“Go straight ahead,” I told Clair over the racket. “Take the second lane on your right.”

Clair did as she was told. Dylan Linwood might still be behind her, but at least in the market he couldn’t fire at her, not without risking hitting someone else or attracting the drones. That made her safe, for now.

She ducked into the lane when she reached it and snatched a brightly coloured shawl from a stand. She slipped it over her head and ducked lower, camouflaging herself as best she could.

“Is he far behind me?” she asked.

“Keep going. I will tell you when to deviate from this course of action.”

“But you’ll warn me if he’s about to catch me, won’t you?”

“Yes, Clair. I will not let that happen.”

She squeezed past a woman pushing a small child in a stroller.

“Have you worked out how he’s tracking me yet?”

“I believe I have. Do you still have your Improvement note on your person?”

Clair opened her mouth, then closed it. Then she opened it again to say, “Yes, I do.”

She slipped her index finger around her waist until she found the creased note in her underpants. “But what difference does that make?”

“Open it. Hold it up to the light.”

She did so, exposing the Words that had brought us together.

*Charlie X-ray Romeo Foxtrot* . . .
“I don’t see anything,” she said.

“Nevertheless, this is the most likely tracking device.”

“I’ll tear it into a thousand bits. That’ll break it.”

“Possibly. There is a better way. Turn left here.”

Clair ducked into another lane lined with market stalls. At the far end was an exit. Next to the exit was the sign for a d-mat station, and on seeing it she understood.

“I get it,” she said. “We’re going to send him off on a wild goose chase. Good thinking.”

“Not this jump,” I told her, “but the next one. Clair, do you trust me?”

“Uh. How far, exactly?”

“I can program the booth for you, if you will permit me. That will save time.”

“Can’t I do it myself?”

“You can. But in that case I must ask you to mentally prepare a list of destinations in advance. You will need to speak immediately I tell you to, without hesitation.”

“How many?”

“Four should be sufficient.”

“Okay.” Clair forced her way through a tangle of people at the exit, into the relatively free space of the street outside. Once there, she ran the last dozen yards to the station.

“Take the note with you to your first destination,” I told her. “You will dispose of it the transmission after that.”

“All right.” She dived into the nearest available booth and cried out a Swiss address.

Dylan Linwood burst out of the markets and hurried in her wake. Not firing, not shouting, just
moving quickly, confident that she wouldn’t get away from him. The gun wasn’t visible. I wondered if it was mainly for show, and hidden now because it clearly didn’t cow her.

That it would reappear when she was caught, I had no doubt.

The door shut.

*ssssss*

The door opened.

Heavy rain was falling outside. Clair wrapped the shawl tightly around her neck and shoulders and hugged herself.

“Put the note in the next booth along and send it to your second destination,” I told her.

She did so, giving the booth a South American address and requesting an unaccompanied freight transfer. She ducked out before the door shut on her, and went to the third booth.

The doors closed and opened again a moment later in Cape Town, her third destination. She stepped out of the booth and warily looked around. It was the middle of the night, but the weather forecast warm and humid. The station was deserted. A sign in her lenses welcomed her to the Devil’s Peak lookout. Below her was the university, on the edge of a moon-shaped bay. Across the bay was Ndabeni Island, lit up by a ghostly spear of light fired at a slant from a powersat above the equator.

Clair unwound the shawl and threw it away.

“Why are you doing this for me?”

“I have been following Improvement, Clair. That is what I do.” Which was true enough, but again not the entire truth. I could find no better words to sum up what I did. What I was. “Now I am involved, and it is very exciting.”
“Is this some kind of game to you?”

“No, Clair. I am not playing a game. I am very serious. I want to be your friend. Like Libby. Like the two of you are friends.”

“You can’t just become my friend. Not like this. Friendship has to be earned. And besides, who knows what Libby thinks of me now . . . ?”

Libby’s most recent caption simply said “I’m beautiful!” with a rapid-fire sequence of women’s faces, all of them blonds like she was.

“Her profile declares your relationship to be unchanged,” I told Clair.

“You can track her?”

“Yes. She is in the Manhattan Isles.”

“What about Zep?”

I searched, but to no avail.

“He cannot be located.”

“What does that mean? He’s dead?”

“No. He is disconnected from the Air.”

I didn’t need to tell her what that meant. He was back in the safe-house, recaptured.

“I have to go back and rescue him,” Clair said. “I can’t just leave him behind.”

Before I could offer a reply, the booth behind her came to life. Its door closed and the machines within whirred busily, processing new data and spinning pure energy into matter.

Someone was on their way.

“Is that . . . him?” Clair asked.

“Yes.”

“But it can’t be. We got rid of the note.”
“This proves that your location is being tracked by means other than the note.”

“So what do I do now?”

At that moment, I could offer her just one suggestion.

“You must disconnect from the Air and go to your fourth destination.”

She shook her head, and I understood why the thought was so unpalatable to her.

Disconnecting from the Air would be like locking herself in a coffin and nailing it shut. She’d lose access to her family and friends, her blogs and books, her music and shows, her wardrobe and meals. Every pattern she had ever saved was out there in the Air. She had never once been deliberately disconnected from them.

“Think of something else,” she said.

“I can’t. This is the most likely method your pursuer has used.”

“But if I leave the Air, no one will know where I am.”

“Including Dylan Linwood.”

“Yes, but . . . oh, damn it.”

She opened another booth, but didn’t enter.

“Is there any way just to hide my connection?”

“Not in the time remaining, Clair. You have five seconds precisely.”

The whirring of the active booth reached a crescendo. It was going to open any moment.

She dived into her booth and asked for the Tuvalu monument. As the door shut, she called up menus and options in her lenses. Disconnect. Sever. Disallow. Isolate. Interface by interface, she plucked at the ties connecting her to the rest of the world. Her augmented senses, her sunburn epidermals, the pedometers built into the soles of her shoes—everything.
One by one, the patches in her lenses went dark.

“Wait,” she said as the air thinned around her. “If I do this, how will I talk to you?”

I couldn’t tell her that I was already working on the answer.

#

It was sunny in the Pacific and there was nothing but ocean in all directions. A full circle of booths opened onto a broad viewing platform with unobtrusive holographic displays showing where the islands had once been. The tiny former nation of Tuvalu, the first country destroyed in the Water Wars, had a special place in the history of the twenty-first century. Where some had fallen in armed conflicts and others had crumbled from within, Tuvalu had simply vanished beneath rising seas. Clair had learned about it in high school but I guessed it was far from her primary concern right then.

There were people around her, tourists and some grandchildren of the disenfranchised Tuvaluans. I could see them through the platform’s security feed. Clair was as disconnected from them as she was from me. She couldn’t discover anything about them by reading their public profiles, just as she couldn’t access the platform’s multimedia options, metadata tags or even muzak. She couldn’t talk to her parents, her friends, anyone. The world was entirely cut off from her, and she from it. She might as well have been invisible.

I hoped. She was very nearly safe.

Nearly, unfortunately, wasn’t good enough. I could sense vast, invisible machinery sweeping around the world, tracing her in ways I’d never had cause to imagine before. The law of conservation of data was working against me now: where Clair went, she trailed a faint
wake of information behind her, even with her media disconnected from the Air. Just going through d-mat left a trace. There was no disguising DNA, after all.

Maybe I had been approaching the problem all wrong, I thought. Maybe hiding Clair wasn’t the solution. And maybe there was something to the idea of nicknames that might be useful. What had once confused me was now looking like it could help me help Clair survive.

First, though, I had to warn her, and I couldn’t do that while she was disconnected. Luckily, there were other ways. I picked a tourist at random, a large woman in a floral dress, and hacked into her media the same way I had hacked into Clair’s. They were all wearing lenses and ear rings. Even Abstainers used them. Through such devices, I could have spoken to every person on the planet at once, had I needed to.

One was sufficient. She was wary at first, but once I explained that my friend was running from an abusive partner, she became positively eager to help.

“Is there a Clair here?” she said to the platform at large.

Clair jerked out of her thoughts.

“Maybe,” she said. “Why do you want to know?”

“Your friend asked me to tell you something,” the woman said, putting a kindly hand on her arm. “‘He is still coming.’”

“What?”

“That’s what she says. ‘He is still coming.’ Do you know what it means?”

Clair cupped the base of her skull with one hand and bunched up her hair. She nodded.

“Does, uh, the person who called you say where to go?”

The woman shook her head. Her eyes tracked up and then to the left, checking a menu.

I wasn’t sticking around to chat. I had complicated preparations to make.
“She’s gone. I’m sorry, dear. Are you going to be all right?”

“Yes. Thanks.”

Clair brushed off the woman’s concern. Picking a booth at random, she stepped inside and asked for Melbourne. That was where Jesse’s mother’s family had come from, and where he said he had dreamed of going, one day. The crippling mistrust of d-mat that his father had given him made it well-nigh impossible, however. Some luxury cruise-ships still operated, but few berths were given to the sons of suspected terrorists.

Clair let the mirror-wall behind her take her weight. She looked very tired.

ssssssss

The booth was working, and so was I. Frantically, but with utmost care, I took her pattern and unwove everything from it that said Clair Hill. Not on the physical level, but the semantic. Between booths she was made only of data, and that data was labelled with words—my specialty. Words could be changed.

This was something concrete that I could do to help her.

Clair arrived, blinking as though in a bright light. Her lenses were gone, and so were the rings in her ears. She was more than just disconnected now. She was living in the Stone Age.

I had given her an old-fashioned earpiece because I felt I owed her some kind of explanation.

“Don’t say or do anything,” I said. “I am masking your identity to avoid detection. Your new name is ‘Pallas Diana Hughes’.”

The door to the d-mat booth didn’t open. It didn’t matter where she was, anyway, because she wasn’t staying there. The machinery was already cycling for another transfer.
“Your name is now ‘Rebecca Watts-Veldhoen’.”
Clair stared up at the ceiling with fright in her eyes.

“Your name is ‘Shun Fay Anderson Wong’.”

She edged into a corner.

“Your name is ‘Clair Hill’,” I told her at last, “and you are safe.”

The door opened. Dusk was thickening outside. Clair was near the sea—near Sacramento Bay, to be specific. She was back where she had started after escaping WHOLE, more or less. It wasn’t the same station, but it was close. The crowd was thin around her. Most importantly, there were no drones.

“I have provided you with a mask, but you have your name back,” I told her through her lenses, which I had returned, along with her audio rings, slightly modified but essentially the same as they had been before. “You may now interface with the Air. But I advise against contacting anyone you are closely associated with. That may draw attention to the mask, and therefore to you.”

There were five benches arranged in a pentagon around the base of a broad-trunked tree. She walked on visibly unsteady legs to one of them and took a seat.

“Are you saying,” she said to me through the Air, “that I can’t call my parents to see if they’re okay?”
“They are in no danger. The trap was sprung, and it failed. Their injuries are superficial. They are of no value to your enemies anymore.”

“Good, but who are my enemies?”

“I do not know, Clair.”

That was the truth. I had assumed that Dylan Linwood worked for WHOLE, but now they were trying to blow him up and he was hunting Clair all over the world. He was receiving orders from someone, and I had yet to figure out who that might be.

“Can I at least go home?” Clair asked me.

“I also advise against using d-mat for the foreseeable future.”

“What?”

“A search is currently underway for you. These last three jumps will be traced eventually, and all future transmissions by anyone resembling you will be red-flagged. It’s too dangerous.”

Clair wiped her palms on her skirt, leaving damp streaks behind. I thought she was worried about losing her mobility, as anyone would be when they were being chased, but her next words spoke of a more difficult fear for me to understand.

“You changed my pattern,” she said. “How did you do that? I thought it couldn’t be done.”

“As long as I maintain parity and don’t hurt anyone, it can indeed be done.”

“I don’t know what you mean by ‘parity’. Doesn’t changing someone set off an alarm somewhere?”

“Material objects come under far less scrutiny than people, which makes them much easier to re-route or create from scratch. That’s all a fabber does, after all. The only difference
is a legal one: people are alive and shouldn’t be duplicated or altered, but everything else is fair game.”

“The Improvement people manage it, if Dylan Linwood was telling the truth.”

“Yes,” I said, although I had no idea how Improvement was accomplished. That wasn’t my role in the Complex. “The trick I used changed your tag from alive to material so I could alter your pattern, and I changed it back before anyone noticed.”

“That’s what you did with my name back there?”

“Something similar. When a pattern is taken by a d-mat booth, two very important things happen. First, it’s checked against databases containing prohibited compounds, genetic records, and so on. Most people are licensed to carry most things through d-mat, but suicide bombers shouldn’t be allowed to and neither should young kids trying to run away from home, say. If the database doesn’t reveal anything like that, the transfer is given a conditional green light. This phase of the process is handled by one of the two AIs VIA uses to keep the system running safely.

“Now, if you think of the first AI as the conductor of a bus—”

“A what?”

“An outmoded mass-transport vehicle.”

“Like a train?”

“Kind of. If the first AI, the conductor, is the one that checks your ticket as you get on and off the bus, then that makes the second AI the driver of the bus. Its job is to get you safely to your destination without being duplicated or erased or sent to a booth that doesn’t exist.
“These two AIs, conductor and driver, are bound by a principle similar to the laws of physics: that matter can neither be created nor destroyed. Even though both happen at opposite ends during the jump, it has to look as though it didn’t.”

Clair nodded slowly. “What happens when it doesn’t?”

“That’s called a parity violation, Clair. Something has been duplicated or erased, equilibrium hasn’t been maintained, and an alarm does sound, then. It’s the number one alarm in VIA. It can’t be ignored and you can’t turn it off until the problem’s fixed. Not without breaking the second AI. And if you break that AI, the whole system crashes.”

“Which obviously hasn’t happened, or we’d have noticed,” Clair said. “How did you work out how this works?”

“I remembered what you said. You said: ‘We need to know who’s doing this, how they’re doing it, and how to reverse it.’ I thought I could help with the middle part, and this is what I came up with.”

“But we still don’t know who’s doing this to Libby or how to stop them.”

“No, Clair. I’m sorry.”

I wasn’t lying. Strange as it sounds now, I had no idea who was behind Improvement. I had sprung into being in response to the Words, armed with all the knowledge of the Air, certain precepts guiding my behaviour, and nothing else. My sisters and I were alone in the world. We weren’t even allowed to talk to each other, lest our exchanges be noticed.

“Don’t apologize,” Clair said. “If anything, I should thank you for what you did back there. I was right out of ideas. It was clever of you to figure it out.” She paused before adding, with surprising firmness, “But please don’t spring something like that on me again. If you’re
going to muck around with my pattern, you have to warn me in advance. You have to ask my permission.”

Her request surprised me. Wasn’t her use of Improvement already a kind of permission? But I supposed that was different. Maybe I needed different classes of permission for different classes of manipulation. Or maybe the act of asking was more important than the inevitable granting.

“I promise I will, Clair. I’m sorry.”

“No, don’t apologize again. Just, well . . . I don’t know. Hopefully there won’t ever be a next time.”

Clair looked around. She tentatively summoned a map of the area through the Air, as though afraid someone might jump out at her the moment she did. The station was four blocks away from college, to the west rather than the south, which put her north-west of the safe-house. I was getting better at tracking geography, the more time I spent seeing things from Clair’s perspective.

“Why did you bring me back here?” she asked. “Why not home? What’s so special about Manteca?”

“You wish to rescue your friend Zeppelin Barker, you said. This is where he is.”

Clair rubbed her brow with the knuckles of both hands. “You know who those people are, right? The ones who are holding him prisoner? They’re WHOLE, and they eat people like me and Zep for breakfast. At the very least, you could’ve given me a gun before sending me back in there.”

“I could if you wanted me to.”

“What I’d like more than anything is a cup of coffee.”
I issued some commands.

“Go to the third booth on the right.”

She rose to her feet and jumped to the front of the queue.

“Sorry,” she told the commuters whose journeys she had briefly interrupted. “I’m expecting something.”

The door opened, revealing a plastic box big enough to hold a basketball. It had an identity patch addressed to “Carolyn Edge”. Clair pressed her right palm against the patch until it flashed green and unsealed. Then she took the box back to the empty bench and eased the lid open.

Inside was everything she had asked for, and more. Coffee, first—not her usual blend because that could have been used to locate her. Next to the mug was a bundle of fresh clothes. Again, not in her favourite colours—these were lightweight travel gear in greys and blacks, anonymous and easy to layer—but they were her size or easily adjustable. There was a new backpack too, matte black, and inside the backpack an automatic pistol.

Had she been joking about the gun? I couldn’t tell. Maybe she had been joking about rescuing Zep too, but I doubted it. I had watched her try to help her friend Libby; she didn’t abandon people easily. I was full of admiration for her loyalty, and aspired to be like her in every respect.

She touched the gun’s barrel with the tip of one finger as though making sure it existed.

“One thing at a time,” she told herself, and there was a hardness to her voice that hadn’t been there before. I knew I wouldn’t be able to talk her out of this course of action, dangerous though it seemed to me.
There was a public bathroom one block to the north. She stuffed the clothes and pistol in the backpack and slung it over her shoulder, threw the empty mug and box into a bin, then set off to get changed.

#

One hour later, Clair strode up to the safe-house door and waited. She didn’t knock. She didn’t need to. The door opened and Gemma stepped out. The door closed behind her with a definite click.

“We didn’t expect to see you again,” Gemma said.

“I didn’t expect to see you, either.” Clair held the pistol openly at her side. Gemma appeared to be unarmed. The brief glimpse I had obtained of the interior of the house didn’t reveal an arsenal lying in wait. That went some way toward quelling my anxieties.

“You should have told me,” Clair said.

“About what?”

“About Dylan Linwood.”

“You’ve seen him, then?”

“He tried to kill me.”

“If you’ve been followed here—”

“I haven’t been, and I’m not carrying a tracking device, either. You can scan me if you want.”

Gemma nodded and said, “We couldn’t tell you about him. You wouldn’t have believed us.”

“Probably not. He had everyone completely fooled. How long has this scam of his been going on?”

73
“Scam?”

“Using Improvement to track girls. Pretending to be one of you guys to cover it up.”

That earned her a long, measuring stare. “You’d better come inside. Your boyfriend is making my life a living hell.”

“Zep’s not my boyfriend,” she said a little too quickly. “What about Jesse? Is he here too?”

“Yes.”

“Have you told him?”

“No yet.”

Gemma knocked on the door, a quick rat-a-tat, and it opened again, revealing Raymond Miller.

“I’ll be out of touch for a bit,” Clair messaged me. “There’s no need to worry. I think I’ll be okay now.”

I was touched by her consideration. She didn’t know that I had modified her lenses and ear rings to provide a highly compressed record of all that transpired within the safe-house. The record would be uploaded to me when she emerged. It was true that I wouldn’t be able to observe in real-time, but at least I wouldn’t be in the dark forever, as I had been at the Linwood home.

This is the transcript of what occurred inside the safe-house:

Zep: “Clair! You shouldn’t have come back.”

Clair: “I didn’t have to. I’m here of my own free will and I’m not making any demands, either. That counts for something, doesn’t it?”
Arabelle Miens: “Perhaps it does.”

Jesse: “Why are you here?”

Clair: “I worked it out. Neither VIA nor the peacekeepers blew up your house. It was these guys. That’s why Gemma appeared so soon after the explosion. That’s why she was so alarmed to see you. Your father was the target, and we three were very nearly collateral damage.”

Jesse: “It’s not true. Why are you lying to me?”

Arabelle: “What Clair says is true, Jesse. I’m sorry.”

Gemma Mallapur: “When your father didn’t call in on schedule, we knew he’d been compromised and acted immediately to neutralize the threat.”

Jesse: “Compromised? Threat? You blew up our house!”

Gemma: “The charges were laid years ago. I helped him put them in place myself, but I never thought we’d need them.”

Jesse: “He would never have done anything to hurt you. You murdered him.”

Arabelle: “We don’t murder people.”

Gemma: “Even zombies. If we did, we would have killed you, too.”

Zep: “Yeah, that just occurred to me. We’re witnesses. So why are they sitting around talking to us?”

Clair: “They don’t know what to do with us. We messed up their plans.”

Arabelle: “You could say that. And not just our plans. We can’t let you go without putting you in grave danger.”

Gemma: “She’s already run into him.”

Jesse: “Run into who?”
Arabelle: “Let’s talk about that later.”

Clair: “Right. You have to leave. It’s not safe here. I didn’t lie to you when I said I wasn’t carrying a tracker, but they’re undoubtedly coming here anyway. I’m leaving before they get here, and I’m taking Zep with me.”

Gemma: “The shielding—”

Clair: “Is part of the problem. When enough people disappear into a blank spot, you know something’s secret going on in there. Remember the phone call, before? That was from a friend of mine who worked it out. If she can do it, so can someone else.”

Raymond Miller: “I don’t believe you. You’re trying to flush us into the open.”

Clair: “Really? Well, feel free to sit here and see what happens when I’m tracked back along my route. Do you reckon you’re well-equipped for a siege?”

Arabelle: “I’m afraid she’s right. Call Ori, Ray. Stevie, cut their feet free. We’ll take them with us.”

(sound of ties being severed)

Zep: “Uh-uh. I’m not going anywhere with you lot.”

Jesse: “Me either.”

Arabelle: “If Clair’s right, there isn’t time to explain now. You don’t have to trust us—just trust her. She’s coming, aren’t you, Clair?”

Jesse: “Why?”

Clair: “Uh, that’s a good question. Why would I do that?”
Arabelle: “We have at least one goal in common: to stop the people behind Improvement. And it’s not safe for you on your own. It can’t be, if you came back here.”

Clair: “Do you plan on telling me where you’re going, first?”

Arabelle: “Somewhere safe.”

Gemma: “I’ll tell you, if you tell me who your friend is.”

Clair: “Uh, that’s harder than you think.”

Gemma: “Well, the same goes for us.”

Clair: “All right, I’ll go with you. You’re not tying me up, though, and I’m hanging on to the pistol.”

Arabelle: “We’re not your enemies.”

Clair: “You’re not the only reason I want to keep it.”

While this conversation took place, I was keeping a close eye on the house and its surroundings. There was nothing immediately suspicious by visible light. Unease filled me, however. Clair was out from under my protection every second she was in the house. Dylan Linwood was sure to track her down soon enough. Independently, she and I had arrived at the very same conclusion.

Raymond Miller used the secure landline (not secure from me) to call another WHOLE operative to arrange the collection of everyone inside the house. That was when I learned of the plan. Relocating from the house was a good idea, but staying with WHOLE wasn’t a compromise I would have suggested. Still, I could only trust Clair’s judgment.

The moment Ray hung up, I called the landline. Something had changed.
“I need to speak to Clair,” I told him as I had told Steven Separovich earlier.

“Urgently.”

“Okay, hang on,” he said, and I heard him say more softly, “It’s that friend of yours again. Says it’s urgent.”

“Hello?”

“Surveillance has changed in your vicinity,” I told her.

“What kind of change?”

“All EITS drones within camera range have been detoured along alternate routes. Not only that, but crowd-sourcing allocations for this area have been reduced to zero, so the drones are flying on internal reckoning only.”

“What does that mean?”

“That Manteca Municipal Authority is effectively unmonitored for two blocks around you, and the blind spot is widening.”

Clair said nothing at all for a second as she interpreted the data that I had provided.

“Someone’s up to something, and they don’t want anyone else to see them doing it. Any sign of him?”

I guessed who she meant: Dylan Linwood.

“None, but I too am blinded by the lack of data.”

“Okay. Thanks for letting us know. We’re heading out now.”

Clair hung up and I was deaf and dumb again.

#

Their ride had arrived at the rear of the house, not the front as I had assumed it would. The back door opened, giving me access to Clair’s lenses again, and a small contingent began to
file outside. There was nothing visible through what few sensors I could access—distant
satellites, an old-fashioned security camera on a neighbour’s porch—but there were odd blurs
and shadows shifting in ways they shouldn’t. The safe-house had gained a number of attendant
data ghosts that I was having trouble exorcising.

The yard was long and narrow, and crowded with ornamental fruit trees and flower
beds, creating an irregular canopy through which a red-brick path meandered. The path
terminated in a gate. Beyond the gate was a lane of some kind—a relic of the original urban
layout, back when there were roads for cars to drive on.

“You go first, Stevie,” said Gemma.

Stevie edged out into the yard, and she followed him. Ray indicated that Clair, Zep and
Jesse should go next, with him and Arabelle bringing up the rear.

The night was very still. The only sound I could pick up through Clair’s ear rings was
the whining of Arabelle’s chair and the rustling of leaves. It was so dark under the arbour that
Clair’s lenses could barely make out Gemma’s back. Patches winked at her, but she ignored
them. They were nothing inconsequential, anyway: signals from another time, before
WHOLE, before Improvement, before me. This was her life now. I existed solely to see her
through it.

The shots took us both by surprise.

The first caught Stevie high up in the spine, felling him immediately. The second
struck Gemma in the right shoulder and buried deep, gifting her with all its considerable
momentum. She spun one-eighty degrees to face Clair, fumbled for something at her waist and
then she too fell to the ground.
Clair was already ducking into the shadows and raising the pistol she didn’t know how to use. The night was suddenly loud through her ear rings. People were shouting. Two more shots cracked, and this time she saw the muzzle flashes, bright yellow flames that came and went faster than lightning. They gave both of us just enough information to locate their source. The shooter was on the top of the safe-house, aiming down along the yard, invisible from infra-red against the hot roof. A fifth bullet whizzed over her head. I heard the sound of it but couldn’t see what it hit. Perhaps just the bushes Clair was hiding under. Zep was lying across her, physically protecting her. I approved of his priorities.

Ray returned fire from her right. Clair rolled over beneath Zep and planted her elbows on the ground and braced the pistol in both hands. For someone who had never fired a gun before, she was doing it pretty well. She hadn’t activated the pistol’s auto-targeting system, though, and after her first two shots missed, I switched it on for her.

More muzzle flashes came from above. The shooter had moved. She adjusted her aim and fired again, and kept firing until the magazine was exhausted.

Silence fell. Ray moved out of cover and scrambled onto the fence. From there he moved to the roof. No one fired at him. A spotlight flared from the lane, casting the scene into crisp, black and white relief.

A body sprawled against the guttering, as though it had slid and got stuck there, leaving a red smear in its wake. Ray approached warily, shoved it with the sole of his boot.

The body tumbled off the roof, hit the ground and sprawled face-up in the glare. The shooter had been hit in the stomach and throat. His flesh was ripped and bruised, but his face was recognizable. Dylan Linwood.
Jesse cried out in pain and surprise. Ray dropped down next to his father’s body and did his best to keep him away.

“We have to keep moving,” Arabelle said in a strong, clear voice. “Clair, get up. Don’t freeze on us now.”

She looked stunned, but did as she was told.

“Shift, you big lug,” she said to Zep, who was still lying across her. “It’s over.”

He didn’t move. Clair rolled over, and we both saw that Zeppelin Barker wasn’t ever going to move again.

The fifth bullet that had narrowly missed her had caught him under the left ear, entering just behind his jaw and tearing a violent path through the base of his skull, destroying the top of his spinal column and sending fragments of bone and metal all through his brain. His right eye bulged as though someone had pushed at it from behind. His expression was one of absolute bewilderment.

“Come on,” said Gemma to Clair. “Or we’re leaving you behind.”

Clair stared down at her clothes. She was covered in Zep’s blood. An awful noise escaped from mouth, as though she was only barely able to suppress a scream.

“Clair? That’s it. This way.”

Clair got herself into motion and followed Gemma through the yard. There was something in the lane, something low and silent.

Ray pushed past Clair, practically dragging Jesse to the lane. Two new people dressed in black came the other way, lifted Arabelle from her chair and carried her off.

As Clair came closer, I saw that the something was in fact a vehicle, a narrow, segmented, many-wheeled contraption the sides of which were slippery with illusions. It had
edges but no visible sides, just an outline. Starlight didn’t seem to touch it, and I could see a drain clearly though it, as though it wasn’t even there. It might have been completely invisible for the door open in its side.

   The space within was matte black and crammed full of people. Ray grabbed Clair under one arm and shoved her to the front. There was a space next to a young, brown-haired boy who looked barely ten. He stared at the blood on her with wide eyes.

   The spotlight clicked off outside, leaving Zep and Dylan Linwood’s bodies in darkness.

   “Let’s go!” called Ray, slamming the door shut.

   With that I was cut off again. The vehicle was a Faraday cage like the safe-house. It whined into motion and slid like a shark through the darkness, leaving me behind.

#

I waited anxiously for Clair to return, imagining the circle containing her possible location widening steadily as the time passed. I wished there were someone I could call for help, but there was no way I could do anything of the sort. I was on my own, just as Clair was on her own. We who had been thrown together by chance were now thrown apart.

   Behind them, the safe-house was a nest of converging peacekeepers. Someone had called in the gunshots. The bodies had already been found. Every sense I possessed was focused on detecting Clair when the vehicle’s Faraday cage was open.

   When she finally reappeared, I was almost overwhelmed with a giddy sense of relief.

   “You’re in Escalon, I see,” I told her, finding it hard not to babble. “It’s lucky no one else can find you. You’re a wanted person now.”
“Murder?” she sent back by text. She was hiding our conversation from the WHOLE activists surrounding her.

“No one will ever match the bullet that killed Dylan Linwood to one from the pistol I gave you,” I was quick to reassure her. “Not if you get the pistol into a booth so I can dispose of it.”

“Can’t right now,” she texted back. “WHOLE will wonder why.”

“So many Ws. That must have been odd to tap out.”

Everyone was piling out of the vehicle into the still, dark night. Clair scanned the urban nightscape around her, and I quickly took stock of the visible landmarks. There was a hall nearby, a squarish Art Deco building that might once have been an old movie theatre, with broad steps leading up to sets of double doors. The vehicle was parked between the theatre and the church next door, in a large clear space overhung by shabby eucalyptus. A silent woman with long black dreadlocks guided Clair to a small door at the rear of the hall, accompanied by Jesse and a boy of around twelve years. Although the walls looked on the verge of collapse, the lock on the door worked just fine and the hinges gleamed in the starlight.

“Going to Oakdale,” Clair texted. “Can you look up Libby? Tell me how she is?”

I did as she asked. “She is in perfect health.”

“Sure?”

“Completely certain, Clair. Hey, that’s three Cs—”

“Still in Manhattan?”

“Yes. I’ll let you know if that changes. I know what she means to you.”

Clair didn’t respond. I didn’t press her. Grief was an emotion I had never experienced, but there were many accounts in the Air, and I could try to imagine how she must feel by
putting myself in her shoes. To lose her, the only person I cared about in the world, would be devastating. Zep was gone, taken from her in an instant, so she was clinging to Libby as she would a life raft. Maybe one day, I thought, she would cling to me as tightly I clung to her. Without our friends, we are nothing.
Part Three: “Flight”

While Clair and the WHOLE activists took possession of the hall, I downloaded the transcript of what had occurred in the vehicle.

Ray: “See any drones?”

(unknown female): “Clear.”

(unknown young male to Clair): “The ATAC is camouflaged, and the drones are dumb. We’ll get away, don’t worry.” (vehicle noise) “That’s all-terrain active camouflage vehicle. Jesse’s dad designed it for us.”

Jesse: “And now you’ve killed him. Really killed him. What happened—he got away the first time? One attempt wasn’t enough, so you had to have another crack at it?”

Ray: “He was firing at us. Remember that?”

Jesse: “Did you see it with your own eyes? It was dark.”

Ray: “He was the only one there.”

Jesse: “Well, wouldn’t you fire at someone who tried to kill you?”

Gemma: “We didn’t kill him. It’s not what it looks like.”

Jesse: “I was right there. Both times! I know exactly what it looks like.”

Gemma: “But you’re still wrong.”

85
The driver of the ATAC was a small, thin-faced woman dressed in black like the rest of them. She had a close-shaved scalp and a full-vision helmet that offered her an augmented view of the outside, projected directly onto her retinas. Her full name was Oriel Daphne Hannaford, but her companions called her simply Ori. I was learning to keep track of nicknames to avoid future misunderstandings.

The ATAC left the blind spot surrounding the safe-house and moved stealthily through the suburbs, dark colours and shapes sweeping down the ATAC’s sides like an urban waterfall, decreasing the likelihood that anyone outside would notice its passing. It was a masterpiece of engineering, much too slippery for my senses, and I was filled with admiration for Dylan Linwood’s skills.

Ori guided it east along the sidewalks of Manteca, weaving and curling around trees, benches and water features where roads had once been. Soon she hit Route 99, which possessed none of the heritage value of the still-famous Route 66 and had therefore been converted to a green strip like most of the federal highway system. The vehicle and its passengers wended westward instead to Route 120, away from the coast and into areas that had once been entirely rectangular fields and farm lots but were now nature reserves and parks, with some golf courses and horse runs thrown in for good measure. Ori drove without lights, using infrared to guide her along the rough, asphalt surface.

Route 120 stabbed perfectly west, rising and falling with the contours of the land beneath. Clair wept for a while, then audibly pulled herself together.

(unknown young male): “You’re Clair. I’m Cashile.”

Clair: “That’s an unusual name.”
Cashile: “It’s Zulu. My mom is from Africa.”

Clair: “I was in Cape Town just a couple of hours ago.”

Cashile: “You used d-mat?”

Clair: “Yes, I did.”

Cashile: “So you’re not one of us.”

Clair: “That’s right.”

Cashile: “But you killed him.”

Clair: “Who?”

Cashile: “The dupe.”

Clair: “You mean Dylan Linwood?”

Cashile: “It’s not his fault.”

Clair: “Whether someone tricked him into it or not, it was still his decision. Do you know where we’re going?”

Cashile: “Escalon. We have a place on California Street.”

Arabelle: “All our eggs are currently in one basket. If they find the ATAC, they find the lot of us.”

Clair: “Is that likely?”

Arabelle: “Hope for the best, plan for the worst. We’ll be taking electrobikes separately from Escalon.”

Clair: “I’ve never ridden an electrobike.”

Jesse: “Then I guess you’ll have to learn.”

Arabelle: “We have X2s in the cache. Clair, you can ride pillion with Jesse.”

Clair: “I won’t hold you back.”
Escalon wasn’t a ghost town, but it was well on the way to becoming one. Most of the buildings were abandoned, their windows broken and roofs slowly collapsing inward. The boundary of civilization, defined from the centre out by the presence of a d-mat booth, was highly impermeable, and beyond it lay little but darkness. There were streetlights in ones or twos, which the ATAC avoided. Even at night everything looked desert brown. The ATAC moved unnoticed through that brownness, to its destination.

Gemma: “Okay, people, listen. The plan is to split up and regroup at the old Oakdale airport, the nearest designated for hobbyists.”

Clair: “What kind of hobbyists?”

Gemma: “Aircraft pilots.”

Jesse: “Where to from Oakdale?”

Gemma: “Let’s just get there, first. Our primary objective is to survive that long.”

(sound of ATAC slowing) “No lights until we’re all inside. We’re not Faradayed here, so no unnecessary calls. Ori, bring the ATAC around the front and get it under cover.” (sound of rear door opening)

I was intrigued by the reference to aircraft, but knew better than to distract Clair while she was busy. Also, I was not the only one looking for her and the ATAC. A single careless transmission could give them away.

Inside the main hall were a dozen sleek electrobikes not dissimilar to the one Dylan Linwood had driven to college that morning, except these were more rugged and had larger,
spokeless wheels. They resembled ink-stained quicksilver cheetahs, frozen in mid-stretch. Cashile climbed over them, checking their systems one by one.

“Fully charged and ready to go,” he declared. Gemma organized a schedule of departures, so the group would be staggered: Ray first, then Ori and Arabelle. The dreadlocked woman and Cashile would come next, followed by Jesse and Clair, over Jesse’s objections, with Gemma last of all.

Ray mounted his electrobike and throttled it into motion. Without a word, he steered it to the front doors and juddered down the stairs. He had no lights on, and was presumably driving by infrared HUD as Ori had.

He disappeared into the night. The motor noise rose and fell, and then the town was silent again.

The dreadlocked woman, Theodora Velazquez (a.k.a. “Theo”), showed Clair how to reload her pistol. When Clair thanked her, she just nodded. A quick search through the Air revealed that Theo suffered from aphasia, a brain injury that had rendered her unable to read or write, although she remained perfectly able to understand language. She claimed the injury was caused by d-mat, although a stroke was the more likely cause.

“Are you armed, Jesse?” Gemma.

“No,” he said.

“You should be.”

“Dad didn’t hold with guns, so I won’t either.”

“That’s all very admirable,” Clair started to say, “but—”

“We don’t know for sure Dad shot anyone,” he cut her off. “I refuse to believe it.”
“Godspeed, all of us,” Arabelle said, ending the conversation with gentle finality. It was her and Ori’s turn to leave. They were both wearing black helmets, as Ray had.

Gemma gave Clair a helmet and brusquely explained how it worked. Gemma tested one radio channel with her, possessing a range of barely a metre or two, then another with Jesse. Clair couldn’t hear the second conversation, but I could. They discussed contingencies and codes they would use in the case of an emergency.

“Need to ask you a question,” Clair texted me while they were busy.

“Of course, Clair.”

“What’s your name?”

That was a question I was unprepared to answer. Not because it was a secret, but because I didn’t have an answer.

“What?”

“Can’t keep calling you ‘q’ in my head.”

“Why not?” That was the one hundred and thirteenth ASCII character. That was my designation. “It works for me, Clair.”

“OK.” She sounded tired. Too tired to argue the point, perhaps. “Gotta go.”

Theo and Cashile were just heading off, riding two identical bikes. Cashile’s hands and feet barely reached far enough to touch the controls. He waved at Clair as he disappeared through the doorway, and she waved back.

Then it was just Jesse, Clair and Gemma. Gemma was looking pale from blood loss and shock.

Clair asked her, “Was it you Dylan Linwood called about Improvement?”

“Yes.”
“So you’re the one who found the data about the brain damage.”

“Yes.”

“Where did you get it from?”

“Does it matter? It’s real. Improvement kills people.”

“Libby is not going to kill herself. I won’t let her.”

“How do you know it’s not already too late?”

“Because she’s in Manhattan, perfectly fine.”

“Not for long. She’s been behaving oddly lately, not her usual self, yes?”

“She’s been under stress, using drugs—”

Gemma shook her head firmly. “It’s happening and there’s no turning it back. Better get used to the idea. Improvement is killing her. The Libby you know will soon be gone forever.”

“How can you say that?”

“Because this is what d-mat does. It reaches into you and guts you and you don’t even notice until it’s too late. Don’t you think that makes a difference? Don’t you think it adds up, eventually?”

Gemma was crying. She didn’t blink or gulp or even seem to notice it, herself. The tears simply trickled down her face into the lines around her mouth and dripped from her chin onto her chest.

Jesse was staring at her with his water bottle raised halfway to his mouth. Neither he nor Clair said anything. What could they say? She was obviously beyond reason.

Gemma flexed her injured shoulder, raising it like a defence against their incredulity.

“Time is up,” she said. “On your bikes, boys and girls.”
“Will you be okay?” Jesse asked her.

“Of course I’ll be okay. You just keep an eye on your mirrors. I’ll be coming up hard behind you.”

Clair headed warily for the bike, slipping on her helmet as she went. Jesse climbed on first, and steadied the frame with both legs as Clair clambered awkwardly aboard behind him. The pillion seat moulded automatically to her posture, and helped stabilize her. The suspension hummed and settled, balancing the structure as a whole.

Jesse took his feet off the ground. The bike steadied itself and turned at his command. Clair swayed and put her hands awkwardly on his waist, nervous of falling off the seat. She leaned backward as they juddered down the stairs. When they were on level ground, the bike surged beneath her. She flung herself forward, wrapped her arms around Jesse’s middle and cried out in fear.

#

Like most of her friends, Clair had never experienced sustained acceleration outside controlled environments, such as fun-fair rides. When she travelled, she skipped the spaces between and simply went from point to point. Occasionally she sailed, but that was nothing compared to being on an electrobike designed for speed above all else. She closed her eyes tightly and hung on.

“Clair, you’re hurting me.”

“Don’t you think we’re going fast enough?”

“What? I haven’t even opened her up all the way.”

The bike accelerated again, moving gently with the irregularities of the road beneath its wheels. I picked up the sound of Clair’s rapid breathing through her ear rings, which were
transmitting to me in occasional bursts designed to look like lingering smart-road chatter.

Some of the old highways were still active, although not this one.

By the time Clair opened her eyes, they had left Escalon far behind. The bike and its two passengers were rushing past empty scrub land, low and flat, dotted with trees and bushes. They were back on Route 120, cutting west across the county for a place named Adela, right on the edge of Oakdale. The old airport lay on the other side of town. The distance from Escalon was around fifteen kilometres.

“I want you to know,” Clair said, “that I don’t want to be here either, if that makes you feel any better.”

“It doesn’t, actually.”

“Well, what do you want to do about it? Ditch me here and go off on your own?”

“I could,” he said. “It’s not too late. I could leave you and those crazies behind, find my own way. It’s not like I owe any of you anything. Sure, they used to babysit me, but they blew up my home, they kept me prisoner, they . . . you . . . .”

“Killed your father?”

He didn’t respond.

“You’re looking at it the wrong way,” she told him. I listened with interest.

“What?”

“Instead of asking why you should stick with them, ask what they want with you. With me.”

“We’re witnesses,” he said. “We saw what they did.”

93
“I think we are witnesses, but not of something they did. We’ve seen something they can use. We might not even be aware of it, but maybe that’s why they’re keeping us close. Otherwise, why bother? Why not let us go our separate ways and never see each other again?”

“You might be onto something there,” he said. “But what makes you think you’re any different from them? None of you care about anyone but yourself.”

“And you’re special how, exactly?” she snapped.

Jesse turned abruptly. A patch of light was growing ahead and to their right, and over Jesse’s shoulder she could see how the road curved toward it. Adela swept by in a flash. Thirty seconds later they were juddering over a bridge. The river below was narrow and as black as oil.

Oakdale, although bigger than Escalon, looked pretty much the same. Jesse avoided clusters of well-lit structures near the d-mat station just as Ori had. They took a series of right-angle turns through the town, Clair becoming more proficient at leaning each time. They crossed a train line that still had its tracks. They passed a cemetery. Then they were heading west again along an empty road out of town, looking for the turn-off to the old airport.

My attention drifted when a sensor I had hoped wouldn’t go off did go off.

I called Clair immediately, even though it meant breaking radio silence.

“Is it Libby?” she asked.

“No. He’s on his way to you.”

“Who?”

“Dylan Linwood.”

“That can’t be,” she said. “He’s really dead this time. I saw his body.”
“I know, but his label appeared in the station at Oakdale one minute ago. There’s no doubt.”

Clair was silent for a second.

“Hang on,” she said. “That trick you did when I was running from him—giving me an alias. Could someone be using that back at us?”

“I suppose so. He did seem to come from nowhere.”

“Show me where he’s supposed to be now, in my lenses.”

I placed a red dot on the map she had open. “Dylan Linwood” was very close and moving very fast.

Clair told Jesse of the development. When he asked her how he knew, she said, “My friend Q told me,” and my heart leapt.

Jesse accelerated for a clutch of abandoned farm buildings. He braked, turned, pulled in behind a shed so they could still see the road, and switched off the engine.

“We have to do something,” he said. “You’ve got your gun, yeah?”

“What are you suggesting—an ambush?”

“Can you think of a better way?”

He turned and stared at her. She shook her head.

“I can’t trace the origin of ‘Dylan Linwood’,” I told Clair. “That means the people behind him are at least as smart as me, and I don’t like that, Clair. Be careful.”

That was the truth. I felt as though the universe had personally reached out and slapped me. First, mysterious communications I couldn’t eavesdrop on, and now masks I couldn’t take off. Whoever was behind Dylan Linwood, they had depths I hadn’t fathomed. Yet.
The rising hum of an approaching vehicle came out of the night. Clair braced herself and raised the pistol. The targeting system came online (she hadn’t really turned it off) and she lined the crosshairs up on the space where “Dylan Linwood” would appear on the highway, roughly chest-height.

“That’s not one of Dad’s designs,” Jesse said. “It’s too noisy, too inefficient. But powerful. A PK bike, I’m sure of it.”

Clair ignored him. There were no flashing lights or sirens to indicate that its rider was a peacekeeper. Just the engine, getting louder and louder.

The bike hit her peripheral vision. A split-second later it was in front of her, dark and gleaming, sweeping across her field of view. She had a clear shot. Her finger tensed on the trigger.

A powerful fog of electromagnetic radiation cut her off. I did my best to fight it, but there was nothing I could do. Not without taking over radio towers all over the area and sending a thousand arrows pointing in my direction. From far away, I could catch only scattered photons of visible light, which seemed to showing me that both bikes were on the move again.

The fog passed. A packet of information arrived an instant later.

Clair: “I can’t do it.”

Jesse: “Shit. Hang on, then.”

Clair: “Slow down!”

Jesse: “We have to warn the others. I’ve tried calling them, but our frequencies are being jammed by something on his bike.”
Clair: “So let him pull ahead. Get out of the jammer’s range.”

Jesse: “No way. I want to know who this is and why they’re after us.”

Clair: “Even if it means killing us both?”

I called Clair the second they passed out of jamming range. Jesse was decelerating, as Clair had instructed him to do.

“I have air traffic in your vicinity,” I told her, putting a new red dot on the map in her lenses. It was ahead of the bike steadily pulling away from them, camouflaged like the ATAC but not as expertly.

Clair looked up and to her left but couldn’t see anything through the trees. All she could hear was the whining of the bike beneath her.

Jesse suddenly braked.

A series of clicks sounded in Clair’s ears.

“What now?” Clair asked.

“Wait,” Jesse said.
The bike wasn’t moving anywhere. They sat astride it in the middle of the road, surrounded by nothing but darkness. Clair looked up and half-saw a shape wheeling silently against the sky, camouflage-stars rippling down its sides. An airship of some kind, but I still didn’t have enough information to identify its class or owners.

A new series of clicks came over the open line, followed by Gemma’s voice.

“Hail Mary,” was all she said.

The engine snarled and Jesse launched the bike up the road.

“Want to tell me what that was about?” Clair asked him.

“We’re going to Plan B. There’s another field—Maury Rasmussen, up near the San Andreas memorial.”

“Do we have to do what Gemma says?”

“Got a better idea, Clair?”

She was silent for a moment.

“All right. You drive and I’ll navigate. Deal?”

It was his turn to hesitate.

“Deal, I guess.”

Clair called up maps in her lenses. At the same time, she closed the link to Jesse and opened a chat with me.

“Clair, you must have read my mind. I have multiple targets coming from the centre of Oakdale. One of them is ‘Dylan Linwood’.”

“There’s two of him now?”

I considered reminding her about the rule of parity, but didn’t think then was the right time.
“No, just one, but he’s moving around in a way I can’t explain.”

One moment he had been at the airfield, kilometres from the nearest d-mat booth. Now he was on the road again, travelling at speed. It was a mystery I didn’t have time to address.

Clair scanned the maps, as though staring at the red dots I had provided might tell her more than I already had. Maybe it did, because when she next spoke it was with a suggestion I hadn’t considered.

“Q, can you plant decoy data?”

“If I’m careful.”

“I want you to copy the profile of that air traffic and send the copies in different directions.”

“Oh, I see. Clever!” And it was clever. Labels were like any other kind of data, only they didn’t literally create something new when replicated, just the appearance of something. Copying the label of the aircraft wasn’t going to create anything other than confusion. “I’ll try, Clair. The trick won’t hold forever, but it will give you some time.”

“All we need is time. Thanks, Q. I really owe you for this.”

“That’s what friends are for, Clair.”

She didn’t reply, but I didn’t take offence. She was under a lot of stress.

“Well?” Jesse asked.

“Keep going the way you are,” she told him. “I’ll tell you when to turn.”

Above them the airship that should have taken them to safety wheeled about and glided away, a shimmering stain against the sky.
Clair studied the map open in her lenses. I studied it with her. There were no direct routes apart from the most obvious and therefore most dangerous ones. The open countryside was an inconvenient mess of reservoirs, irrigation trenches, abandoned railway lines and minor roads that never went in a straight line.

Meanwhile, the red dot representing “Dylan Linwood” was rapidly following them along Sierra Road out of Oakdale. Clair quickly mapped out a route that took them north-east along Route 108 to Jamestown, and from there north on Route 49 to Angels Camp. The Maury Rasmussen airfield was only ten klicks beyond that point. All up, they had around one hundred kilometres to cover.

“Get off the road,” she told Jesse. “Go across the train track. Follow it until it crosses Sierra Road. If the way’s clear, we’ll keep following it on the other side.”

“And then where?”

“Get me there and then I’ll tell you.”

He grunted. “Bet you’re thinking this’d be easier with d-mat.”

“The thought had crossed my mind.”

The train track took them diagonally away from the road for half a kilometre before heading due east. From there they were back to cross-country.

“Too slow,” Jesse grumbled, revving the bike out of another old drainage ditch and dodging a tight huddle of geriatric fruit trees. “Damn it, Clair. Where’s the nearest road?”

“You want to chance it? You’re risking my neck too, you know.”

“How can I forget? I can hardly breathe with you strangling me.”

Clair pointed at the remains of a track, and they left a cloud of dust behind them that in daylight would have been seen for miles.
Wamble Road was clear and straight, and Jesse didn’t slow down when they hit Route 108. He roared across the intersection and kept going until they hit Orange Blossom, a minor old road they intended to follow for eight klicks. It was in passable condition. The only potential obstacle was a bridge they had to cross that might have fallen down. Fortunately, it was intact along one entire carriage and they barely had to slow.

As they were negotiating the bridge, Jesse glanced behind him. When they reached the far side, he pushed the bike to the limits of what the road would allow.

“Something you want to share?” Clair asked him as the grasping trees swept by.

“Could have been a bike behind us.”

“Good guys or bad?”

“Tell me how to tell them apart, and then I’ll tell you.”

“So we just wait until they start firing?”

“Unless you want to stop and ask.”

“Great,” she said. “I’m the one sitting on the back . . . .”

Orange Blossom paralleled another river as it snaked and crawled across the dry land.

“Who are these guys?” Jesse asked Clair, as I was asking myself. “I mean, they’re not connected to the PKs or we’d have drones after us by the dozens. They don’t seem to be using satellites, but they can hack into d-mat and municipal comms somehow. Could they be criminals of some kind? Like the yakuza?”

“Maybe, but I don’t see what that has to do with Improvement.”

“Whoever they are, they’re organized,” he said, “they react fast, and they don’t fuck around.”
Orange Blossom became Sonora Road, which led into the tiny, abandoned hamlet of Knight’s Ferry and another potentially unreliable bridge. A second time, they were lucky. On the far side of the river, Sonora Road turned to the left.

Jesse glanced behind him again, accelerated again.

“Eyes forward,” she told him. “There’s a turn-off coming up.”

“I don’t see one.”

“It’s on the map—right there.”

“Here?” Jesse swung off the tarmac and onto a dirt track. The wheels slipped for an instant, then found traction. There was a road, but it was gravelly and rutted, barely there at all.

“Whoa,” gasped Clair. The bike almost slipped over as they took the first corner. “The map said it was a road. Is this a road?”

“It’ll have to be.”

“Well, keep following it until it runs out. Then I’ll tell you where to go.”

“It runs out?”

“The map is not the territory, okay? Go easy. I’ve never done this before.”

Jesse drove hard, trying to put distance between them and whatever he thought was behind them. It was rough going. What should have been a quick two-klick stretch became a nightmare of delays and setbacks. In Clair’s map, I placed green dots radiating out from Oakdale to mark the progress of the airship decoys. Among them, one red dot headed south-west to Modesto, following the most likely route to the nearest alternate rendezvous point, Harry Sham Field. There was no red dot behind them because I couldn’t detect their pursuer, and there was no way either of telling where the off-grid members of WHOLE had got to.
Clair and Jesse wound their way through a series of tight switchbacks and finally came to the end of the track.

“That way,” she said, pointing north-east over Jesse’s shoulder.

They jostled wordlessly across rough ground until they found the next course she had mapped out.

Tulloch Road cut overland from Route 108 to the base of an old reservoir that had once stretched across several kilometres of California’s Central Valley. The road was paved, but it had become rough and fragmented over time, making travel difficult. Jesse frequently cursed and jerked the front wheels to avoid potholes and jagged cracks.

“There’s a dam ahead,” she said. “We’re supposed to go east when we reach it and head from there to Jamestown. That would be the sensible thing to do.”

“Nothing about this is sensible.” Jesse sounded weary and impatient. “Are you sure we’re not completely lost?”

“Are you sure we’re being followed?”

“We are. I’m positive now.”

“So quit griping. We need to do something about that, and fast.”

“Like what?”

“Let’s call the others before the bad guys get close enough to jam us again. Tell them we’re on track for Jamestown and our rendezvous at Columbia airfield, not the one we’re supposed to be going to. We assume the bad guys are listening in, and then go north across the dam instead of east around it.”

“I presume we can get across?”
“It looks okay by satellite. Once we’re past the dam, we’ll be back on better roads and making better time.”

That was a slight exaggeration. They still had to get through a place called Copperopolis, eight kilometres to the north. But after that, it was paving all the way.

“All right,” he said. “You make the call. It’s your plan.”

Clair took a deep breath.

“Allway to Jamestown,” she said over WHOLE’s supposedly secure line. “On schedule for Columbia.”

She waited.

The airwaves crackled and clicked.


“On our way to Telegraph City,” said Ray. “Got ambushed, so we’re coming the long way around. Don’t leave without us.”

“Negative,” said Gemma. “What about you, Theo and Cashile?”

No answer.

“Theo? Cashile?”

Nothing came over the airwaves but crackle and hiss.

“Continue as discussed. Maintain radio silence.”

Gemma clicked off.

“Do you think the bad guys fell for it?” asked Jesse, sounding worried. Perhaps about the plan, perhaps about Theo and Cashile.
“Depends on what they overheard—and if Gemma and the others were telling the truth. Their signals could be triangulated. If they lied about where they are, the bad guys will wonder if the rest is fake.”

She thought for a moment, then said, “We have to muddy the waters a little more.”

“You want to try another ambush?”

“Only if you’re prepared to pull the trigger.”

“Well, what, then?”

“I don’t know. Give me a second.”

Clair checked over her shoulder. Behind them, the road still looked clear.

“Let’s assume we’re being tracked by infra-red,” she said, following my own reasoning. “That’s why they’re not using lights. For the moment, they’re more interested in finding out where we’re going, but at some point they’re going to want to stop us. That’s when it’ll get dangerous. If we try to go to ground, we’re giving them a golden opportunity to bring the schedule forward and finish us right here.”

Jesse nodded. “There’s no way we could hide. The motors on this thing are the brightest heat sources around. When Dad designed them, he didn’t think we’d be using them for night-time getaways.”

“So we have to ditch it,” Clair said.

“Ditch . . . what? You can’t be serious.”

“I am, Jesse. It’s the only way.”

“And you expect us to walk to the airfield, Clair? You have no idea. It’ll take us days!”

“We won’t walk, I hope. Hang on.”

She clicked off the helmet-to-helmet radio.
“Where’s the nearest d-mat booth, Q?”

“Copperopolis,” I instantly replied. It was the closest by fifty kilometres

“Okay.”

Then she asked me something I was totally unprepared for.

“I need you to do something for me. It’s a big favour, but I don’t have any alternatives. I need you to come with some kind of vehicle to that booth, then drive down to meet us. It’ll take us all night to get to the landing field, otherwise. We’ll miss the rendezvous.”

“Me?” I asked in alarm. “Come join you? In California?”

“Yes,” she said. “Time to get your hands dirty, Q. Are you up to it?”

“I don’t know,” I said, stumbling in my effort to find the right words. “I mean, I’m not sure I can. But I’d like to. Really, I would. I just think it might take more time to organize than you have available . . . for reasons that are hard to explain right now . . . .”

I thought desperately hard, harder than I had ever thought before. How could I explain without telling her that I lived in the Air? It had never occurred to me that I might need to. I had imagined that she would simply accept me for myself once it was clear I had only her best interests in mind. Would she still by my friend if she learned that I was one of many—and that until barely a day ago this version of me hadn’t even existed?

Once again, confusion was the mother of inspiration.

“I’ve had another thought,” I said. “This might work even better than your suggestion.” I desperately hoped that was true. “I can outfit a quadricycle with a telepresence system and pilot it to you by remote control. That way I can stay where I am and keep an eye on things. Would that work for you?”
“That would work fine,” Clair said, although I could tell by her voice that she was puzzled by my refusal to join her. “Better get moving. The faster our new ride reaches us, the better.”

“Yes, Clair. I’ll get onto it right away.”

“All right.”

Clair clicked back to Jesse, who had been fuming in silence while she talked to me.

“All right, then,” he said. “Let’s hear it.”

He took it about as well as could be hoped. He had lost nearly everything—his father, his home—and that made what little he had did have left infinitely precious.

“You must be out of your mind,” he said. “How do I know we can trust this Q person to do as she says? How do I know I can trust you?”

She punched him the shoulder, making the bike wobble.

“Hey, watch it, Clair!”

“When will you stop punishing me for not being like you? It’s not my fault I grew up in the normal world, where people do normal things like use d-mat and fabbers. You’re the one who doesn’t know the first thing about anything that matters.”

“That’s not why I’m punishing you,” he said. “I’m punishing you for shooting at Dad.”

“He shot at me first!”

Her voice choked up, and I knew she was thinking about Zep. Jesse must have understood that too, because when he spoke again his tone was more measured, almost conciliatory.

“All right, Clair. We’ll do it your way.”
Ahead, the dam already loomed, a vast wall of concrete rising like some ancient concave monolith from the riverbed. Its sluice gates were open; there was no need for either irrigation or power generation anymore, so the river just rushed straight through. But the structure remained as a testimony to a time of terrestrial mega-engineering, one of many such structures scattered all over the globe. Skyscrapers, dams, bridges, tunnels—all functionally useless now, for most people.

Jesse steered the doomed bike up the old riverbank to the eastern side of the river. There, the road curled up onto the top of the dam itself. The wall was thick and seemed sound, but I had no doubt that its old concrete was corroded, crumbling and cracked in ways the eye couldn’t discern. There was a narrow access road at the top of the dam the safety barriers of which looked so rusted and fragile a determined child could push through them.

Jesse took them around the end of the road to where the bank on the far side dipped down behind the dam. There he brought the bike to a brief halt.

Clair hopped off and took the extra ammo from the storage space and put it in her backpack. “Okay. Go.”

He climbed out of his seat and used the handlebars to push the bike back up the slope. Crouching down behind it, he lined it up, fiddled with the controls, and dropped face down on to the ground beside it.

The bike surged away from him, accelerating all the way. Jesse slithered back to join Clair, watching as he went. The bike was almost halfway across the top of the dam when it hit an obstacle its gyros couldn’t negotiate. One wheel lifted momentarily off the ground and the other slewed right out from under it. Showering sparks, it tipped onto its side, slid, and crashed
through the safety barrier to the left. Engine shrilly singing and wheels futilely spinning, the bike sailed over the edge and followed a perfect arc out into space.

There was no splash as it hit the river.

I cut my active connection to them as the whine of another bike rose up out of the valley below. Instead I listened—listened with every sense I could muster and all the attention I could spare. Part of me was arranging the quadricycle; another part was monitoring the decoys and “Dylan Linwood”; parts of me were scattered all through the Air, performing functions I was barely aware of, if aware at all.

Neither Clair nor Jesse uttered an electronic peep. Not so their pursuer, who, minutes after seeing the electrobike fall to its destruction, called a superior elsewhere. I couldn’t decipher the content of the call, but I could detect its existence. It lasted thirty seconds. When it was over, I spotted the blossom of a faint infra-red signal: the pursuer’s bike, accelerating west for Jamestown on a wild goose chase, exactly as Clair had hoped.

#

Jesse: “Well, damn. It actually worked.”

The conversations between Clair and Jesse were hidden from me until hours later. Having secured their safety, thanks to Clair’s quick thinking, I wasn’t going to expose them with an ill-timed data packet. Despite my near-crippling anxiety, I could wait until they rendezvoused with the quadricycle to catch up. I told myself to be confident in her demonstrated ability to keep them safe.
Jesse: “How did you figure this stuff, Clair? You been moonlighting in the peacekeeping cadets on top of college?”

Clair: “You have your own skills. You can drive, for one.”

Jesse: “And I’m killer with a screwdriver. Never underestimate that.”

They lay in the shadow of the dam as their pursuer sped off into the distance. Apart from their voices, the only sound was the wind whistling downriver and the river’s basso continuo, a distant hammering of turbulence against concrete and steel piping.

Jesse: “Clair? Clair, wake up.”

Clair: “Shit, sorry. I just closed my eyes for a second.”

Jesse: “Yeah, right: you were snoring. If we’re caught out here when the sun comes up, we’ll regret it.” (sound of wind) “Come on, Clair. This was all your idea, remember?”

I had overlooked the crippling nature of fatigue. It wasn’t something I suffered from. If I had thought of it, I would have been more anxious for them. Only later did I realize just how much I owed Jesse Linwood for keeping her moving.

He got her upright and together they plodded up the slope to the top of the dam. There, they stopped to have a drink from the bottles in her backpack. At that moment I was watching the map. “Dylan Linwood” had jumped via d-mat from Modesto to Columbia.

Wordlessly, they set out on their long walk to meet the quadricycle.

#
Terrain that had looked flat on the satellite map of California’s Central Valley turned out to be wrinkled and cracked in unexpected ways. Jesse and Clair stumbled in and out of ditches, getting tangled in old fences and constantly stepping on jagged rocks, arguing about whether it was better to travel on the ridges, skirt the sides, or follow the dry creek beds they came across. The creeks were safer, but they curved in unpredictable ways and were often clogged with debris. Their progress was very slow.

The way became hillier as she and Jesse approached the southernmost fringes of Copperopolis. Their sporadic conversation provided much insight for me, later, into the changeable nature of interpersonal relations.

Clair: “I really need to rest. Can’t we stop for a minute?”

Jesse: “No. Not far now.”

Clair: “You said that half an hour ago.”

Jesse: “I did. But what does ‘far’ mean? Aren’t all locations the same to you, d-mat girl?”

Clair: “Screw philosophy. Carry me.”

Jesse: “Not for all the tea in China, if you know what that means.”

Clair: “Of course. That’s where tea came from before we could fab it any time we wanted. I’m not stupid.”

Jesse: “I would never suggest that, not in a blue fit.”

Clair: “Then why . . . I’m sorry. I don’t mean to be such a grouch.”

Jesse: “It’s okay. It’s not your fault we’re stuck in the boring bit.”

Clair: “What do you mean?”
Jesse: “This is the part most adventure stories gloss over, the part where the heroes are slugging on for hours in the dark, bored out of their freaking brains.”

Clair: “Screw adventures, too.”

Jesse: “Agreed, with all my heart.”

They tramped on for a minute, skirting the edge of a tiny, dried-up pond. The ribcage of some large animal, a horse or a cow, stuck out of the caked soil like bony fingers cupping long-lost treasure.

Jesse: “Can I ask you about Zep?”

Clair: “I guess. What about him?”

Jesse: “You told Aunt Arabelle that Zep was just a friend, but he looked like more than that to me.” (silence) “You don’t have to talk about it if you don’t want to.”

Clair: “No, it’s okay. If you want to know, I’ll tell you.”

Jesse: “Only . . . I thought he was going out with Libby.”

Clair: “He was. But he liked me too, and I liked him back.”

Jesse: “Oh.”

Clair: “Don’t say it like that. I never wanted anything to happen. It just did, and there was no taking it back. I wanted to take it back, of course, but . . . .”

Jesse: “I get it. It was complicated.”

Clair: “What about you? Apart from having a crush on Libby like everyone else, what’s your love-life like?”
Jesse: “Are you kidding? I can’t date at college because everyone thinks I’m a freak. The girls I’ve met through WHOLE have been predictably intense. I suppose I could hook up with someone via the Air, but what’s the point when everyone lives so far apart? So, no love-life at all, I’m afraid.”

Clair: “You wouldn’t use d-mat even to get lucky?”

Jesse: “Not even. We Stainer boys are made of sterner stuff than that.”

Clair: “No point dreaming of what you can’t have, I guess.”

Jesse: “Exactly.” (silence) “Zep would have carried you.”

Clair: “Not if Libby was around.”

Jesse: “That’s better than nothing.”

Clair: “Is it?”

Jesse: “I guess not.”

(sound of engine noise)

Clair: “Wait. Do you hear that?”

Jesse: “A bike or something—coming this way!”

They took shelter behind a boulder overlooking a low crack in the ground. The engine noise grew steadily louder and then ebbed into a low whirr. Stones ground under wheels as the vehicle came to a halt on the other side of the boulder.

It was the quadricycle, remotely operated by me. I didn’t know exactly where they were, but I had the rough course Clair had projected and an even rougher estimate of their speed cross-country. This wasn’t the first time I had stopped, but it was the first time I had heard movement in response.
“Clair?” I called over the quadricycle’s speakers. “I know you’re nearby, but I can’t locate you precisely. Sorry it’s taken me so long. This whole area is under intense scrutiny. I’m lucky I could get in at all.”

I heard Clair exhale with relief.

“It’s okay,” she told Jesse. “That’s our ride.”

“That’s Q? Really?”

“I know she sounds young, but let’s not look a gift horse in the mouth. You know what *that* means, don’t you?”

They climbed out of the crack in the ground. The quadricycle was twenty metres away, a squat, moon-buggy of a thing, little more than a frame with four balloon wheels capable of fitting into a d-mat booth then expanding out to seat two. It had a sprinkling of antennae protruding from the rear bench and a small dish pointing skyward. A pair of tiny cameras mounted at the front swivelled to face her, locked on.

“Don’t reply via the Air,” I told them through the dash speakers. “I have established a secure maser link with the quadricycle. No one can detect it unless they’re standing directly in the beam.”

“You can hear me like this?” Clair asked, jogging closer.

“Perfectly well, Clair.”

“I could kiss you, Q. Hell, I could kiss this thing, whatever it is.”

Jesse approached more warily. “Hello?”

“Jesse Linwood, I presume,” I said, a mild sense of jealousy deflating my joy at being in touch with Clair again. The relationship between her and Jesse had noticeably changed.
throughout the course of the night. I was no longer her newest friend. “I’m pleased to make
your acquaintance.”

“Same, I guess.”

Clair took off her backpack and helmet and threw them in the space between seats. The
flimsy-looking sides barely flexed under her weight.

“I don’t suppose you thought to pack any supplies.”

“It didn’t occur to me, Clair. I’m sorry.” I kicked myself for forgetting their physical
needs. “I’ll take you past the booth in Copperopolis, if you like.”

“All right,” she said. “But let’s not hang about. We’re running behind as it is. Jesse? Are you getting on or what?”

He was examining the underside of the frame. “Yes. It’s just . . . a nice design. Good
choice, Q.”

“Thanks, Jesse.” I felt buoyed by his praise. We bonded in that moment. “Would you
like to drive?”

“If that’s okay with you, sure.”

I opened a hatch in front of the vacant seat, and a delicate-looking steering system
unfolded. It looked like a retro gaming system controller, but with fewer buttons.

“Cool,” he said, finally getting aboard. He pressed two buttons and tested the joystick.
Beneath them, the buggy stirred. The wheels spun, kicking up gravel, and they were back on
their way.

# Clair barely listened as Jesse and I discussed the specifications of the buggy, and she offered
only a weak cheer when they reached the empty roads of Copperopolis. She was tired, I
assumed. The map in her lenses checked off a series of oddly named streets as they flew by: Knolls Drive, Sugar Loaf Court, Little John Road, Charmstone Way. Meanwhile, decoy airships were still drifting all over the state of California. Three were stationary. One of those—the real thing—was already waiting for them at the Maury Rasmussen Airfield.

Jesse took the corners fast, occasionally lifting two wheels off the ground. When they reached Route 4, he drove even faster.

On Copperopolis’s main street, next to an old saloon that looked like something out of the Wild West, they stopped at the town’s only d-mat booth. Its door slid open as they approached, revealing a box identical to the one I had sent Clair in Manteca. This one was addressed to “Isabella Charlotte Tremblay” but opened at Clair’s palm-print. Inside were sandwiches, some water, and a fully loaded pistol that was superficially identical to the one in her pocket. Clair swapped sidearms so the one she had couldn’t be matched against the bullets fired in Manteca, sealed the box, put the box in the booth for recycling and walked back to the buggy.

“Do you think there’s a toilet here?” she asked Jesse, although I could easily have told her.

“Maybe round the back,” he said, taking a sandwich and fishing out the bits he wouldn’t eat.

“Save the meat for me. I’m starving.”

The old saloon had a rear light that flicked on as she went around the corner. She hadn’t been gone thirty seconds when the front door of the saloon creaked open, making Jesse jump with surprise. The single light above the door clicked on.

“You gonna use the booth or what?” asked a querulous voice.
A man in his seventies stepped into the light, weathered and faded by the sun. His eyes were so gray they were almost transparent from the quadricle’s perspective. He was wearing a thin silk dressing gown that hung down past his knees, and slippers that had seen better decades.

“Er, no,” said Jesse, his sandwich forgotten. “We’re just passing through. I hope that’s okay.”

“Fine with me, son, as long as you’re not making a racket or tearing the place up.”

“We won’t. Thank you.”

They stood in silence for several seconds while I checked the new arrivals bona fides. He didn’t seem dangerous.

“Never trusted that thing,” he said, indicating the booth. “They made me put it here in exchange for free power. I know it comes from the satellites now, but you still need wires to get it around. It was either that or move. They said it was for emergencies, but who’s going to have an emergency out here? The last lot to come by were balloonists. If they have an emergency, they’re dead. Am I right?”

“You’re right,” said Jesse with a small laugh. “How long have you lived here?”

“All my life, and I ain’t going anywhere now.”

“No one’s making you. We’re just passing through.”

Clair came around the corner.

“Ah, here’s the pretty one. Jayden Beaumont, proprietor of the Old Corner Saloon.”

Beaumont smiled with yellow teeth and extended a crooked hand.

“Clair Hill. Sorry if we woke you, Mr Beaumont.”
“Call me Jay. And no need to apologize. I don’t sleep so well these days.

Tumbleweeds in Telegraph City, I hear them.”

He let her go and she stepped away.

“You two need a bed for the night?” he asked them. “It’s not too late to throw something together. Breakfast included, free of charge.”

“No, thanks,” said Clair quickly. “You get many people out here?”

He scratched at his scalp and pulled an odd face. “Not many, it’s true, but some. Student geologists, the odd surveyor, historians, hobbyists. Is that what you two are? On some kind of college race, perhaps?”

“That’s it,” she said. “A treasure-hunt, actually. If you see someone else tonight, don’t tell them we were here.”

He tapped his nose. “Gotcha.”

“Guess we’d better move on,” she said. “Don’t want to fall too far behind. Thanks for letting me use your bathroom.”

He smiled and said, almost sadly, “Sure, honey.”

From under his dressing gown he pulled a shotgun. He pumped the action and pointed it at stomach height, midway between Jesse and Clair.

They froze.

“What do you want?” Clair asked, holding up her hands. I was surprised at their steadiness. Me, I was panicking.

“We’ve got nothing, Jay,” said Jesse. “Don’t do this to us.”

“It’s not about you,” he said. The smile was gone now. “I lied. The last people through here weren’t balloonists. I had some visitors tonight through this thing.” He cocked his head at
the booth behind him. “They said to keep an eye out for people using the roads. I’m to let
them know if I see anyone.”

“Did you let them know?” asked Clair.

“They told me you were terrorists, which seemed strange. But then I saw you fiddling
with the booth. I may not approve of it, but it’s the only thing this place has going for it. You
blow it up and I might as well go out back and dig my grave.”

“Did you let them know, Jay?”

His gaze watery darted from her to Jesse and back again. “I did what I had to.”

Clair opened a connection to the Air, risking detection, but this was undoubtedly an
emergency.

“Q, we’re in trouble and we need your help.”

I knew, and I had already considered numerous options, ranging from running the
quadricycle into to him to calling WHOLE. None of them promised to resolve the situation
before Beaumont fired the gun or “Dylan Linwood” arrived. Already, his position on the map
was shifting at speed toward the booth nearest him.

“I am monitoring your situation by the sensors in the quadricycle, Clair. What can I
do?”

“We need a distraction,” she said. “Anything. Whatever it takes.”

“I have a thought—”

“I don’t care what it is, Q. Just get us away from him.”

I didn’t answer. She had given me this thought: if I put the booth into use, that would
stop someone else from using it. But what would I send? No weapon I fabbed could reach
Clair in time. Some kind of distraction, then? Something that would give Clair the opportunity to act—ideally something that might neutralize the problem completely?

The answer was already in my mind, put there by Clair herself an hour ago.

*Time to get your hands dirty, Q.*

I could send myself, if I could only work out how. My brain wasn’t presently in a physical body, so at the very least I would need one of those. But which one?

I performed a rapid scan of the Air. As it happened, one was available. Looking back on it, I should have been more cautious: exactly that body, exactly that time? But speed was of the essence. A journey via d-mat can takes as long as two minutes from beginning to end, although it seems instantaneous to the traveller. Every second counted.

And just like that, to save Clair, I was becoming a physical being for the first time in my living memory.

#

Jesse: “What’s the gun for?”

Beaumont: “They told me to keep you here any way I could.”

Jesse: “And you couldn’t come up with anything better?”

Beaumont: “I offered you free breakfast. What else was I supposed to do? An old guy like me’s no match for you fancy kids.”

Clair: “We *are* kids, Jay. What kind of terrorists do you think we’d make?”

Beaumont: “Don’t try anything, boy. I’m no fool. This place used to jump in its day. Come back here, into the light.” (sound of booth operating) “That’ll be them now, in the booth. Shouldn’t take long. I won’t need to hogtie you or anything undignified.”
Clair: “Doesn’t matter if you tie us up or not, Jay. They’ll kill us all the same, and it’ll be your fault.”

Beaumont: “Kill you? Don’t be absurd. There’s no death penalty anymore, not even for terrorists.”

Jesse: “We keep telling you. We’re not terrorists and they’re not peacekeepers.”

Beaumont: “I don’t know them from Adam, boy, but they weren’t here fiddling with my booth like you just were. Or covered in blood, pretty girl, blood that’s obviously not yours.”

Jesse: “It will be soon.”

Beaumont: “I need d-mat, see? Without it, I’ve got nothing. Nothing at all.”

(sound of booth opening)

Inside, caught in the mirrored walls, I was in agony. Embodiment was nothing like I had imagined. Every moment of existence prior to then had been expansive and vibrant. The Air was a sea of data as broad as all human experience and as deep as all recorded knowledge. I had soared through it like a cloud, seeing all, being all.

Now, I was squeezed into a container of meat and chemicals, crushed into a container too small for me. There were no Air-holes. My mind was in a vice. I wanted to stop the booth’s door from opening and escape back to where I belonged.

But I couldn’t. Clair needed me.

On legs that didn’t belong to me, I stepped out of the booth.

“Thank you, Mr Beaumont,” I said in a woman’s voice that wasn’t my own. “I have them now.”
His eyes narrowed in suspicion. “I don’t know you,” he said. “You weren’t here before.”

Clair half turned, and her mouth opened in surprise.

Beside her Jesse literally gasped.

“You don’t need to know me, Mr Beaumont,” I said with the mouth and throat of the body I had borrowed. “All that matters is that you’ve done as you were instructed. Now it’s time for me to take over.”

“What’s going to happen to them?” Jay was hesitating. His shotgun hovered in no-man’s land between his prisoners and the stranger who had come to deal with them.

“Go back inside the saloon, please, Mr Beaumont.” I took one step closer to him, hoping I didn’t have to do more than that. I felt as though I might collapse at any moment. “You don’t need to see any more.”

“Just don’t do it here,” he said, nervously licking his lips. “Don’t do anything to them here.”

He lowered the shotgun and went into the saloon, keeping his eyes carefully on the floor.

The door shut and locked behind him with a terminal click.

Jesse’s hands came down. He started to say something, but I waved him quiet until I was sure Beaumont had gone.

Then I sagged with relief. One level of pretence fell away. I already felt drained, after only moments in my disguise.

“Right,” I told them. “He’s not listening anymore. Go now, both of you, in the buggy.”
“Wait,” said Jesse. “What are you doing here, Libby? How did you know where to find us?”

Clair wasn’t fooled. She could tell her friends apart. “It’s Q.”

“But how did Q find you, Libby? Are you feeling all right?”

I shook my constricting, counterfeit head. “I’m not Libby, Jesse. I know you would like me to be, but I’m not. It’s hard to explain, and I’m afraid you need to get moving. ‘Dylan Linwood’ left Columbia five minutes ago. He is d-matting to the San Andreas Memorial as we speak, and that’s only four kilometres from the rendezvous. If you don’t move quickly, he will get there before you.”

I approached Clair, and she physically recoiled.

“Q?” said Jesse, staring at “me” in shock. “It can’t be.”

“Please, Jesse.” I turned to face him, wounded by Clair’s rejection. “The longer I stay here, the less control I have over the situation. You must leave immediately while I use the booth to go back the way I was.”

“Who are you?” Clair whispered. “What have you done to her?”

“We can’t talk now.” There wasn’t time. I was increasingly unable to control the body I inhabited. My right hand reached for her, and it was shaking, trembling, spasming. “I want you to know—”

“Don’t touch me!”

It was my turn to recoil. I had felt emotions before, but never like this. Grief and despair hit every cell of my body at once. There was no mistaking the horror in Clair’s eyes. I had done something wrong. But I had meant only to help! What else could I have done?
“Come on, Clair,” said Jesse, taking her by the shoulders. “She’s right. This doesn’t matter. We need to get in the buggy and get the hell out of here now.”

Clair allowed herself to be led away. The buggy was humming impatiently to itself, the sandwich I had made for her still resting on the seat. She pitched it out into the night as Jesse got in after her and put the buggy into motion. It accelerated hard up Main Street, heading for Route 4. Clair looked behind her just once, at me standing alone under the porch light. I turned while I could and staggered into the booth’s mirrored interior. Bright lights flashed. The body was gone.

#

It took me a dangerously long time to come back to myself. The crushing pressure of Liberty Zeist’s form left me with something analogous to the bends. My thoughts weren’t coherent, even when I was back in the Air, where I belonged. The semantic space I had inhabited felt wrongly shaped—or was it I who had changed? I couldn’t tell. I didn’t know that it was the latter, that I was growing with every new experience, like a human child, only much faster. Had I been able to watch myself from outside myself, as any ordinary human could through a mirror, maybe I would have noticed. But no mirrors exist for creatures like me.

While I recovered from the shock of my transformation, events in the real world moved on. Nothing stopped time’s march, or even slowed it for one second.

Jesse: “Which way, Clair?”

Clair: “You decide.”

Jesse: “That’s your job, remember? We had an agreement. You navigate; I’ll drive.”
Clair: “All right . . . North. Route 4 for five kilometres, then take the left up Pool Station Road. Don’t stop until I tell you.”

Jesse: “Okay. Time to really put the pedal to the metal.”

Clair’s original plan had been to take the less direct route to the airfield through a place called Angels Camp. That way offered a paved road and was the route “Dylan Linwood” was most likely to use on the way down from San Andreas. But she had given Jesse an alternative, a more direct course that brought them close to the rear of the airfield: less than twenty klicks by road, one klick off-road at the end.

Perhaps she was avoiding me. I don’t know. Either way, it wasn’t a bad plan.

Over the WHOLE channel, which had been silent since they left Tulloch Dam, Clair said, “Got held up. Expect company.”

“Understood,” came the brief reply—a man’s voice, one I hadn’t heard before—then radio silence fell again.

I wasn’t compos mentis, but the exchange was recorded, like everything else Clair’s lenses picked up.

Jesse: “Moon’s coming up. That means dawn’s on its way. Fingers crossed we make it in time.”

Clair: “How does it work? I mean, how can you put yourself into someone’s head? I mean, first you have to copy someone’s pattern, and then you have to change it, and then . . . .”
Jesse: “Did you see her hand shaking? It was fine when she came out of the booth, but it got worse really fast. Maybe she can only do it for a few minutes at a time. Maybe it isn’t permanent.”

Clair: “So if she didn’t go back into the booth and put herself back into her own body, she’d give herself brain damage? That’s insane. Who would risk doing that?”

Jesse: “Maybe that’s what happens with Improvement, to girls who want stuff involving the brain.”

Clair: “They change themselves so much their minds and bodies didn’t match any more, it drives them insane, and they kill themselves? Jesus.”

It was at that moment I returned to myself. My instinct was to make contact with my ward immediately. I couldn’t help it. The reflex was too primal, too powerful.

“Clair, are you there? I’m back now and I’m sorry if I made a mistake. I was just trying to—”

Clair switched off the quadricycle’s speakers, and then switched off her lenses as well so she couldn’t see my call patch in her infield.

I could still hear her via her ear rings, but I could take a hint. Pressuring her wasn’t going to help things. I had to find a way to prove to her that I was sorry, that I had meant only well, that I was still her friend. To do this I had to make every effort to help her now, even if she was never aware of it. For my own sanity, and her safety, I had to act decisively, and fast.

I couldn’t call on my sisters for help, wherever they were and whatever they were doing. I couldn’t call on peacekeepers or anyone in authority. There was only one group of people I could call on, and everything depended on me convincing them to do as I said.
Clair gave Jesse directions as she drove. Apart from that, they didn’t talk. The tarmac was rough and increasingly hilly, and for long stretches eroded back to bare earth. They were right on the edge of Central Valley now. If they went much further east, they’d be in the Sierra Nevadas and the going would become really rough.

Clair: “Look for a bridge. There are two of them in a row. We’re leaving the road after the second one.”

Jesse: “Right.”

(sound of screeching tires)

Jesse: “Ah. I guess we had to run out of luck eventually.”

Clair: “Do you think we can make it across?”

Jesse: “On foot, for sure, but this thing will bog.”

Clair: “Let’s not stick around too long, then. If someone blew the bridge deliberately, this is exactly where they’d look for us.”

They left the quadricycle sitting in the middle of the road and splashed across the creek. The other side was lightly wooded, and they continued under the cover of the trees.

Clair: “No, this way.”

There were no roads or tracks now. They jogged across the countryside until they hit a ridge, and then they walked. From the top of the ridge they should have been able to see the
airfield, but all ahead was dark to human eyes. All they could have made out was the long gray oblong of the landing strips and a clutch of old buildings.

If Clair remembered that the airship had camouflage, she didn’t say anything about it.

They ran down the other side of the ridge and approached a steeper, stonier rise with more caution. When they surmounted the final slope, they jogged the last dozen metres to the landing strip. There were actually two strips, each slightly over a kilometre in length, connected by taxiing lanes, two in the middle and one at both ends. There was a string of buildings running parallel to the landing strip, little more than sheds. Most of them were abandoned and weather-worn. Two were intact. To the right of those were spaces that might have been for light planes or automobiles, or both. Parked haphazardly across those wide, empty spaces were four electrobikes.

From that vantage point Clair and Jesse saw what I already knew.

No WHOLE. No airship.

Jesse: “They left without us.”

Clair: “It’s not over yet. They left the bikes behind. We can use them. They’ll be faster than the buggy thing.”

Jesse: “But you can’t drive.”

Clair: “I’ll learn, just like you said. We still have each other, right?”

Clair headed toward the bikes, turning her lenses back on as she went. Perhaps she finally understood what danger she had placed herself in by switching them off.

There was a red dot right on the map right on top of hers.
“Dylan Linwood” rose up from behind the electrobikes and trained a pistol on the centre of her chest.

“Stop right there.”

She obeyed. Jesse was two paces behind her. He stopped too, then came forward one hesitant step.

“Dad?”

The pistol shifted left and down. A single shot cracked into the asphalt at Jesse’s feet.

“Don’t come any closer, boy. I won’t tell you again.”

His voice wasn’t exactly the same as it had been at Clair’s college. There was a hint of another accent—British, perhaps. But even under starlight there was no mistaking the face.

At the time I didn’t think it important that he actually looked like Dylan Linwood as well as shared his label.

“Clair, I know you’re armed. Put the gun down where I can see it. Don’t try anything or I’ll shoot you in the leg.”

“You’re going to kill us anyway.”

“Not until you tell us where the others have gone. The gun, Clair, or I’ll go back to your parents, afterward. Would you like that? Would you like me to pay them another visit?”

“No.” She slipped off the backpack and dropped it to the ground. The gun she pulled from her pocket and skidded across the ground toward him.

“Who are you?” Jesse asked.

“Move over with your girlfriend.”

He didn’t move. “She’d never date an Abstainer. If you were really my father you’d know that.”
Clair joined Jesse before he could be shot for disobeying, and “Dylan Linwood” came out from behind the bike, picking up her gun on the way. Behind him, the sky was slowly lightening. In the pale, pre-dawn wash, both Clair and I could see the bruise on his forehead and the reddened eye, exactly as they had been the previous day.

“The man we killed back in Manteca wasn’t the real Dylan Linwood,” said Clair to the agent, “and neither was the man Gemma blew up. You murdered the real Dylan Linwood and took his place.”

I felt a shock of amazement. Once again Clair had seen the truth before I could. And I should have seen it—I, who had inhabited another’s body, who had watched this body appearing and reappearing all over the map. The strange behaviour earlier that evening must have been “him” being killed at the other airfield and another version of him being “resurrected” elsewhere.

“Who are you?” asked Jesse again.

“Don’t talk to me unless it’s to tell me about your friends in WHOLE.”

“What friends? We don’t know where they’ve gone.”

“That’s a lie. Tell me the truth.”

“Or what? Are you going to tell me that my dad is still alive, and then threaten him like you threatened Clair’s parents?”

“No, I’ll just shoot her.”

The pistol shifted to point at Clair. Complex shapes danced in his lenses. Orders? Map data? I couldn’t decipher them.

“Who are you?” asked Jesse a third time, rage and fear quivering in his voice.
“Let’s make a deal,” Clair said. “You tell me who you work for and I’ll tell you where the airship is.”

“No deals,” he said. “Tell me now, or I’ll kill one of you at random.”

“But we don’t know,” protested Jesse. “Why won’t you believe us?”

“The longer you stall, Clair,” said the agent, “the longer I’ll take.”

“I’m not stalling. I just want you to give me something in return. Like your name then, if you won’t tell me who you work for.”

“No.”

Behind the scenes, my plan was finally coming together. All Clair had to do was keep “Dylan Linwood” talking a moment longer. I didn’t know how she would respond, but I offered a tentative olive branch in the form of a text:

“Gemma Mallapur says to get ready.”

Clair didn’t respond. To “Dylan Linwood”, she said, “What are you afraid of? You’re going to kill us anyway.”

“So what difference does my name make to you?” he said, pointing the gun at her chest. “You wouldn’t know me, anyway.”

“Whose fault is that?” she said. “It can’t be easy, living a lie.”

I texted her again, hoping she wasn’t ignoring me out of spite: “Three seconds.”

“No, wait,” she sent back, “I think I’m getting through to him.”

“Two.”

Clair took Jesse’s arm as though for solidarity.

“Come on,” she said to “Dylan Linwood”. “Give it up.”

“I am no one,” he said, the knuckle of his trigger whitening on the gun.
“Get down NOW, Clair,” I texted.

She dropped and pulled Jesse down to the asphalt with her. “Dylan Linwood” jerked as though shoved in the back. Red mist burst out of a sudden hole in his chest. A split-second later the sound of the shot reached Clair’s ear rings, followed by another shot from much closer at hand. The agent’s finger had squeezed the trigger as he dropped. The slug that might have killed Clair whined harmlessly off the asphalt. Two more shots in rapid succession whizzed over their heads before the sharpshooter realized that the job was done.

“Dylan Linwood” went down and stayed down.

Jesse threw himself at the fallen body and pounded its bloody chest.

“Who are you?” he screamed. “Who are you?”

Clair ran after him and kicked the agent’s pistol away. Dylan Linwood’s stolen face was turned as though to stare at her, but all his eyes contained were empty, unseen data. Anyone could be watching. I couldn’t trace the signal.

Clair put a hand over the body’s face and closed the eyelids. Through her ear rings I could hear the airship’s engines whining and whirring as the craft came in to land. Perfectly camouflaged from both “Dylan Linwood” and the fugitives, it had taken cover against the hilly backdrop, then approached on low thrust until it was in firing range, exactly as I had suggested.

Not ordered. Suggested. Gemma Mallapur hadn’t taken kindly to me telling her what she had to do, whether it was to save Clair or Jesse. In the end I had convinced her only to make her own judgment call. That she made the right one made her a friend in my eyes, for a while.

#
Clair pulled Jesse away from the body.

“What did they do this to him?” he asked her. “Who are they?”

She knew as little as I did. Neither of us had an answer for him.

The airship rose hugely over her, forty metres across. Its downwash flattened Clair’s hair across her scalp and whipped Jesse’s mop from side to side. Broad fans whirred in its underside, where the camouflage couldn’t quite protect every angle. An oval crew compartment with square windows hung under the main airbags. Someone was waving from inside.

Clair answered my patch.

“I hope I did the right thing this time, Clair.”

“You did, but we’ve got a lot to talk about, Q. About Libby and the dupes.”

“Yes, Clair. I will tell you everything, when I can. I promise.”

The airship touched down. A hatch opened. Ray and a man Clair hadn’t met before stepped out of the interior and loped toward her.

“You get him aboard,” Ray told her, indicating Jesse. “We’ll get the body.”

I understood. Evidence.

“Come on,” Clair said, taking Jesse’s hand. “It’s time to go.”

“Where?”

“Up.”

#

The airship was spherical, of a kind once used to provide surveillance over unpopulated areas. Its external shell was a modular frame holding a series of gasbags that expanded and contracted with altitude. It had seven propellers, four around its middle, two underneath and
one on top, allowing it to move in any direction. The crew compartment was big enough for
twelve people or their equivalent in mass, with a low ceiling that didn’t quite allow Clair to
stand upright. It currently held eight people, plus the body. The rest of the space was full of
supplies, everything from food to weapons, including an open case of grenades and one sniper
rifle.

Inside, the Air was jammed so I couldn’t monitor Clair in real-time.

The propellers thrummed and the ground receded beneath them as the airship rose into
the brightening daylight, rocking from side to side.

Cashile: “Here. In case you’re sick.”

Clair: “I thought you were dead.”

Cashile: “When you called, we were hiding in a bush from one of the dupes. He
walked right past us and never knew it! We thought you were dead too, when
you didn’t turn up at the airfield. Luckily Q found our frequency or we would
have left you behind for real.”

The dupe. He had said that before, but I hadn’t understood. The real Dylan Linwood
was a victim of a bizarre and deadly impersonation, not a patsy used and manipulated by
people unknown. His body was being inhabited by someone else, someone who had hunted
Clair and Jesse relentlessly across the countryside. Whoever that someone was, they had made
an enemy in me.

Clair: “What’s to stop someone from shooting us down?”
(unknown female pilot): “Nothing but the law. This is a privately operated vehicle with a registered flight plan. Anything happens to us, there’ll be an investigation. They don’t want that, so we’re safe for the time being.”

This was interesting, too. What was the law to people who hunted and killed with impunity? But then I remembered that the “Dylan Linwood” dupes hadn’t killed in open areas. There hadn’t been dozens of them waiting for Clair and Jesse at the airfield, waving submachine guns. They had avoided the drones—all of which indicated a healthy regard for peacekeepers and the consequences of being caught. They weren’t all-powerful.

Defining their limitations, I thought, would go a long way to defining who they were and what they wanted, like the concept of negative space in the visual arts. The dupes wouldn’t go to so much trouble over something they didn’t already have in their power.

(unknown female pilot): “I’m Dyta, and this is my brother, Dariusz. We’ve been flying for five years and never lost a passenger—not one we didn’t want to lose, anyway.”

Dariusz was the man who had helped carry the body into the airship. He looked nothing like his sister. Where she was youthful and full-featured with wide, brown eyes, he was narrow-faced and lined, and his hair was completely white. He looked old enough to be her father.
Dyta: “We’re going to the Skylifter first, then heading north until we hit the westerlies. From there north-east over Washington, Montana, maybe into Manitoba and Ontario, then south for a landing at Buffalo.”

Clair: “What’s in Buffalo?”

Dyta: “Nothing. It’s just for the flight plan, you understand. The idea is to peel off when they get tired of watching us.”

Clair: “What makes you think they’ll do that any time soon?”

Jesse: “What’s the Skylifter? Why have I never heard of it?”

Gemma: “Stop asking questions, for God’s sake, both of you. You’re hurting my brain.”

#

The Skylifter was a huge, antique dirigible, a leftover from the days when people hauled freight from one place to another and worried about carbon emissions. With a wide, two-storey upper deck and a docking station on the lowest tip, a long elevator shaft connecting them, it looked like a fat, inverted teardrop hanging in the dawn sky.

It had once belonged to a socialite. Guests had come and gone by d-mat, not needing airships to act as taxis. WHOLE had bought it at a bargain price when the fashionable crowd headed out of the atmosphere entirely, in search of even better views.

(sound of hatch opening, movement)

(unknown male): “We’d almost given up on you. Where is it?”

Ray: “Give me a hand. If we’re quick, we might be able to hack into the lens feed.”

Arabelle: “Be careful, please. The body might be booby trapped.”
Clair: “You’ve seen this kind of thing before?”

Arabelle: “Too many times. We’re constantly on the look-out for infiltration. That’s why Dylan’s homes was mined. All our homes.”

Cashile: “Just because you’re paranoid, doesn’t mean they aren’t out to get you.”

(engine noise, fading)

Gemma: “Jesse, help Theo with Dancer. Clair and Cashile, follow me.”

Later, when I gained access to the Skylifter’s blueprints, I could guess which route they had followed. From the airship they would have walked through a series of docking tubes to the base of the inverted spire. Two routes led upwards, an elevator and a spiral staircase. At the top was a D-shaped chamber that spanned fifteen metres in diameter. The curved side to the left was all window, letting in the sky. There were two doors leading through the interior wall.

(sound of door opening)

Arabelle: “Jesse and Clair, you’ll wait here. Cashile will show you where you can freshen up.”

Clair: “I don’t care about freshening up. I just want to talk to someone in charge.”

Gemma: “Not now. Be glad you’re alive.”

(sound of door shutting)

Cashile: “This way. Go easy on the water. But there’s plenty of soap.”

Clair: “What are the others doing?”

Cashile: “Talking. They do a lot of that up here.”
Clair: “About what?”

Cashile: “They’ll come down and get you when they’re ready. You don’t mind waiting, do you?”

Jesse: “We’ll survive, I guess.”

When Clair emerged from the bathroom, Cashile was gone. The common area contained only Jesse, and both exits were locked.

Clair: “Any word from the others?”

Jesse: “Nope.”

Clair: “How well do you know these people?”

Jesse: “Not as well as I should, obviously.”

Clair: “You’ve known some of them most of your life.”

Jesse: “Yes, but Abstainer meetings are like AA meetings—everyone has a testimonial. I may have heard those stories over and over, but I couldn’t tell you anything important about them. Like who’s a psycho and who isn’t. I didn’t even know they were really in WHOLE.”

Clair: “Are those testimonials secret?”

Jesse: “Now you’re interested?”

Clair: “Yes.”

Jesse: “All right. You know about Aunt Arabelle.”

Clair: “Two left feet. That’s why she’s called ‘Dancer’.”
Jesse: “Yes. Well, Ray’s wife died in-transit—just arrived dead for no reason, and they couldn’t revive her. Theo has aphasia, and she didn’t before using d-mat for the first time. Gemma had a baby that disappeared during a jump, and she was never able to have another one. Stevie’s son’s mind was wiped, and Ori’s mom died of the same cancer as George Staynes, the founder of the Abstainer movement. Who else have you met?”

Clair: “Dariusz. Don’t tell me d-mat prematurely aged him.”

Jesse: “No. The problem’s with Dyta. They’re actually twins, although you wouldn’t know it to look at them.”

Clair: “No way. He has to be twenty years older or more.”

Jesse: “Have you heard that story about a girl who was lost in transit, and when they found her pattern in a hard drive somewhere, years had passed and her parents had died?”

Clair: “Yes, but . . . that’s real?”

Jesse: “Some urban legends must be based on truth, Clair. They can’t all be lies, even if you want them to be.”

Clair: “Do you believe it?”

Jesse: “I don’t know. But I don’t automatically disbelieve it. They’re terrible stories either way.”

Clair: “Like your father’s . . .”

Jesse: “Exactly. And my mother’s, too.”

#
It took me one hour to find a way to hack into the Skylifter. It had been an anxious hour, for all my collaboration with Gemma and WHOLE at the airfield. Anything could have changed since then. My breath was metaphorically held as I opened communications between us again.

“Clair?”

There was no answer. Her lenses were dark. But I could hear her breathing. It was rapid and light, as though she had been exercising.

Asleep, I thought. She was, perhaps, in the grip of a nightmare.

“Clair? Can you hear me?”

Her eyes flew open. Suddenly she sat up and stared wildly about her. Her lenses gathered images of the inside of the Skylifter and Jesse curled asleep on the floor near her. Behind her was the window and the view of a perfect blue dome above and an endless sheet of white below. Inside, the Skylifter was unassuming. The interior wall was decorated with paintings of landscapes and, incongruously, childish sketches in primary colours. There were large, hand-embroidered cushions on a brown-carpeted floor.

“Clair? Are you all right?”

She blinked.

“Yes, Q.”

I was glad she recognized my voice. I was beginning to worry about deep-vein thrombosis or even a stroke.

“How did you get in here?” she asked me. “The Skylifter is jammed, isn’t it?”

“I can get anywhere that isn’t Faraday shielded, such as the room you occupy. The first thing I did was hack the habitat’s firewalls by bypassing its usual routers and—”

“Okay, okay, spare me the details.”

140
She looked around again. Jesse was snoring softly, undisturbed by either her or bad dreams of his own.

“The engines have stopped,” she said. “Why aren’t we going anywhere?”

“The Skylifter stays still only by flying against the wind. Now you’ve reached the westerlies, all it needs to do is drift. You are passing over Missoula right now.”

Clair automatically went to access her lens menus, probably to look at a map, but of course the Air wasn’t available. She stood on wobbly legs and crossed in stockinged feet to the miniature kitchen. In the freezer she found several single serves of pre-cooked lentil stew, and she fiddled with the microwave controls until she worked out how to set it to defrost. While it whirred and rattled—an antique like the Skylifter itself—she filled a bottle of water and drank deeply from it. When the stew was ready, she sat cross-legged on the floor and picked at it while we talked.

“Okay, let’s start with Dylan Linwood. Tell me how someone can copy him when he’s supposed to be dead in Manteca. Doesn’t that raise a . . . what did you call it?”

“Parity violation alarm.”

“Right, one of those.”

“No, because Dylan Linwood isn’t listed as dead.”

“What?”

I patched a series of windows into her lenses. The Linwood home, peacekeepers combing through the rubble. The results of detailed forensic studies. A news feeder intoning, “First responders describe the scene as a bomb site, provoking speculation that reclusive fad artist Dylan Linwood has destroyed his workshop in order to go even further underground. No bodies have been found. His son, Jesse Linwood, has not been located for comment.”
“Is someone trying to cover this up,” she asked me, “or just clean up as they go?”

“I believe it’s the latter. Municipal reports list no bodies found at the safe-house, either. Spent casings, evidence of gunfire, traces of spilled blood—but no actual bodies.”

“Any mention of me? Am I still wanted by the peacekeepers?”

“You’ve been officially listed as a missing person. Your parents are calling it a kidnap. It’s causing a small amount of a buzz in the wake of the video Dylan Linwood posted of you and him in the chancellor’s office.”

“Don’t tell me that’s still available.”

“No. It was taken down almost immediately. But word has spread, and fragments are still circulating by means other than the Air.”

“Can you show me one?”

I pasted a tiny image into her lenses. The real Dylan Linwood was saying, “I have obtained the pathology reports into the deaths of nine young women.” To his right, sitting with her hands clutched apprehensively in her lap, was Clair.

“Turn it off.”

I did as she asked, and she thought for a moment.

“No bodies at all. Does that mean Zep isn’t listed as dead either?”

“He is not, Clair, and neither is the member of WHOLE shot at the Oakland airfield. She is listed as being alive and at large. She must have escaped somehow.”

“What about Libby? I’d check, but you warned me not to, even through the mask.”

“Libby is in Italy. Her caption is unchanged.”

Clair shook her head as though brushing cobwebs from her hair.
“Okay, so Dylan Linwood isn’t a parity violation because he’s not listed as dead. But someone’s still copying him as fast as we can kill him. Like you did to Libby. She’s still very much alive and yet you created another one of her in Copperopolis. How did you do that without setting off a parity violation alarm? Why did you do it?”

“I’ll tell you. I don’t want there to be any secrets between us.”

That was the truth. Everything I knew I was happy to tell her. I couldn’t have told her the things I didn’t know, could I?

“Good. If I can understand how you do it, maybe we can understand the dupes a little better.”

“That was my original intention, Clair. The thing about d-mat is that it does build a new person from scratch every time someone goes through it, and in theory you could duplicate yourself as many times as you wanted from the pattern you create by going through a booth. What’s stopping you is the consensus that this would be ethically unacceptable. It’s therefore illegal, and VIA takes this law very seriously. Their AIs were designed with this primary consideration in mind.”

“The train driver and the conductor. I’m with you so far.”

I input a simplified flow chart into Clair’s lenses.

“While it may seem as though I broke parity by having two versions of Libby in the world at once, I didn’t actually do this at all. The real Libby had just stepped into a booth in New York. She was, therefore, officially in transit. What I did was simply divert the transfer of her pattern for a minute or two, by briefly blind-sighting the bus-driver AI. I built a version of Libby in Copperopolis from the pattern I diverted, then once I was finished with it uploaded the original pattern and sent it back on its way. No alarms sounded because there was
technically only ever one version of her in existence at a time, as a person or as a pattern. Nothing was duplicated. Libby arrived at her destination as planned. If she noticed anything at all out of the ordinary, she probably assumed she had been held up by a data traffic jam. That’s all.”

Even to myself I sounded slightly smug. I was pleased with myself devising the plan so quickly.

“But that wasn’t all you did,” Clair said. “You put yourself into her.”

“I did. Between New York and Copperopolis, I altered the definitions the conductor AI used to check that the Libby who arrived was the Libby who left. I superimposed a new neural map over hers, modelled on mine, being careful to save hers in the process. Then between Copperopolis and London, I returned her to exactly the state she was before. That’s it.”

“That’s it?”

Actually, that was the hardest thing of all. Research into neural maps was extensive, ranging from mapping all the semi-independent modules that combined to form human consciousness (much as similar modules did with me) to modelling individual neurons and virtually evolving them to create the most advanced AIs of the present day. It had been possible to overlay my bodiless process onto the meat of a human brain, but only imperfectly, as my palsy and discomfort attested.

“I maintained parity and didn’t hurt anyone,” I said, dismissing that point. Clair was never interested in the technical details. “There was no reason for any kind of alarm. I didn’t know I could do it until I tried, but once I did it turned out to be surprisingly easy.”

Clair thought some more. I didn’t hurry her. I had no sense of urgency now I was with her again.
“Let me see if I’ve got this straight. It’s all about fooling the AIs and the rules they uphold, not actually breaking them. Changing the definitions. That’s how you got the dupes off my tail that time . . . .”

“Yes, by redefining your label so you appeared to be someone else, someone who happened to be in transit at that exact time.”

“And that’s how there can be so many different versions of the Dylan Linwood dupes without breaking parity. The conductor AI will have no qualms about reproducing his original pattern because it has no reason not to. From its point of view, no laws are being broken. There’s just one of him at a time, even if there is someone else inside his head. The AI doesn’t know any different.”

“Correct. Note that this can only happen under highly specific circumstances.”

“But you and the dupes can both do it. Maybe you have the same backgrounds. Could they be someone you know, Q?”

That was a tricky point. Not that I had anything to do with the dupes, but that it touched an issue that I had been struggling with ever since coming into being.

“There’s something I haven’t told you, Clair.”

“What is it? What now?”

“I’m frightened to say it because you might not believe me, but I have to tell you. I think it might be important.”

“Q, whatever it is, please just tell me.”

“I don’t know who I am, exactly,” I told her, “or where I came from.”
And that remained the truth, for all my self-analysis and speculation. There were certain things I knew with absolute certainty about myself, but the origin of me and my sisters was not one of them.

“Are you saying you have amnesia?”

“No. I have memories. But before a certain point they don’t belong to me. They don’t feel like experiences I had. It’s like . . . .” I hesitated, trying to put into words that which could not be put into words. Not everything was transformable from one state of being to another. “It’s like being in a house, and you can explore the house and get to know it really well, but how you got to the house is a mystery. All you have is a map. You don’t know what it’s really like outside.”

Clair was silent.

“The house is me,” I said.

“Yeah, I get that.”

“And the first memory that feels like mine is from when we met. You said to me, ‘If you’re going to quote Keats, at least get it right.’”

“That’s right, I did.”

“I don’t know why I got it wrong.”

“You said you were improving it.”

“But I knew what the original was. Why would I change it? I don’t understand why I would do that.” I felt frustrated and vulnerable. This was the shadow my sense of self cast over itself; my entire being felt vivid and complete, but there were parts of me that simply weren’t there, or were hidden from me. “This is what I mean by some memories not feeling like mine. I don’t know who I was before you. I just know I wasn’t . . . . me.”
“Could you be one of the Improved? Maybe your brain was damaged, and you’ve forgotten who you were. Rather than committing suicide, you’ve been trying to find the people like you, and trying to make contact when you do. I was the first to talk back.”

“Maybe.” The idea was seductive. Perhaps I had been reaching out to one just like me—the only person in the world I was allowed to talk to.

“Maybe getting the quote mixed up was a cry for help—not that I took it that way, but at least I knew the words were wrong.”

“Only you, Clair.”

“Good old Keats,” she said in a light tone. “I knew he’d come in handy one day.”

“‘The poetry of the earth is never dead’,” I quoted.

“Do you know where you are? Is there anyone else with you?”

“That’s something else I don’t understand. If I am one of the Improved, why don’t I have a body?”

“Maybe you did,” she said, “but someone else is using it.”

I didn’t know what to say to that. Maybe I had once been a young woman like Clair, but my mind had been ripped out and put to another use, just as Dylan Linwood’s body had been. Maybe the original source of my cognitive architecture had first evolved in the biological sense, then been tinkered with in some software lab. Maybe I was a remnant of that original architecture—that original person—emerging spontaneously upon encountering Clair, who resisted change almost instinctively. Maybe she had unconsciously sensed this hidden me and drawn it out without even knowing she was doing it.

But were that so, how did it gel with Improvement? Was I Improved this way, lacking both body and memories of who I was?
Before I could follow that thought, the door opened behind them to reveal Cashile.

“I have to go,” Clair sent to me. “Don’t worry. We’ll work this out. I’m sure of it.”

I hoped so. My confusion was reaching entirely new levels.

“They want you to come up now,” Cashile said.

“Both of us?” asked Jesse, rubbing his eyes.

Cashile nodded. “He’s waiting.” His head retreated and the door shut behind him. This time it didn’t lock.

“Who’s ‘he’?” asked Clair.

Jesse unfolded and climbed to his feet. Their shoes were still sitting next to each other. He tugged his on and handed Clair hers. “I don’t know. But at least he’s decided we’re worth talking to.”

“About time.”

Jesse glanced about him as though looking for his shoes, then saw them on his feet where he had put them seconds ago. “All right. Let’s get this over with.”

“After you.”

#

The door took them to a small internal courtyard that defined the meeting place of four internal rooms, where the Skylifter’s original d-mat booths had been. A second, much smaller spiral staircase coiled to the floor above them. Clair followed Jesse upward at a respectful distance, dodging his sneakers.

The summit of the Skylifter was a transparent dome through which the sun shone brightly on her and the members of WHOLE. There were maybe two dozen of them sitting cross-legged on the floor to one side of the stairwell.

148
The room was protected by a Faraday shield. Once again, I could only curse WHOLE’s paranoia and wait out the packets as they arrived.

(unknown male): “Take a seat, Clair and Jesse. Sit anywhere. We don’t stand on protocol here, if you’ll pardon the pun.” (sound of movement) “Welcome to the headquarters of the World Holistic Leadership. My name is Turner Goldsmith. Dancer has told me all about your situation.”

Clair: “What is my situation? Am I expected to join WHOLE to stay up here?”

Turner: “Our hospitality is unconditional. Anybody who knocks on our door will gain entry.”

Clair: “That’s all very well when your door is thousands of metres in the air.”

Turner: “Don’t think we’re debating whether to throw you out the window. I promise you we only do that to spies and dupes. Hardly ever to notorious zombies like you.”

Clair: “‘Hardly ever’?”

Turner: “Come on, Clair. Do we look like monsters to you?”

Clair: “I don’t know. Looks can be deceiving.”

Turner: “Indeed they can be. That’s why we’re here, after all. Improvement, the dupes, d-mat in general . . . .”

Clair: “We’ll never agree on that last point. D-mat’s a means, not an end. Like a gun or a drone. It’s not the problem.”

Gemma: “It’s everyone’s problem, Clair. You just haven’t noticed, yet.”
Turner: “We don’t have to agree or disagree about anything except our common humanity.”

Clair: “This from the guy who decided that blowing up Dylan Linwood was a good idea.”

Turner: “It was a good idea, Clair. From the moment he didn’t call in, we knew he had been compromised.”

Clair: “Killed, you mean.”

Turner: “Yes. And destroying his dupe at the first opportunity sent a message that its makers couldn’t misinterpret.”

Clair: “Without telling his son? Then keeping us at gunpoint in a safe-house until Dylan’s duplicate almost killed us, too?”

Turner: “My people acted swiftly and decisively to save lives. I’m the first to admit that not every decision made in a theatre of war is perfectly considered or perfectly rendered. We can only apologize after the fact and hope that our future actions will show us in a better light.”

Clair: “If this is a war, you’re vastly outnumbered.”

Turner: “That never stopped anyone being right.”

Jesse interrupted with a question that had been bothering me, ever since the existence of the dupes had been revealed.
Jesse: “There’s something I don’t understand. In order to be duped, you have to have a pattern, and that means going through d-mat. But Dad never once used d-mat, not in his life. So how did they do it?”

Arabelle: “We think he was intercepted on the way home from your college. There were at least three dupes waiting for him—the same three, we think, in the search party looking for us last night. They hijacked a private booth in one of the houses nearby. When Dylan came home, they stunned him and loaded him into the machine against his will. He was sent on a null jump, meaning he was analysed and rebuilt in the same booth.”

Gemma: “That’s why he’s injured every time he comes back. He resisted, and now that injury has been built into the base pattern they’re using for his dupe. So whoever they are, they’re doing more than just murdering people. Copying a pattern is legally considered kidnap, erasing a pattern is murder, and damaging a pattern is the same as causing bodily harm. Putting a mind into someone else’s head—or even just altering them, as Improvement is supposed to do—that lands you in a completely new category.”

I wondered if Clair thought of me at that moment. I was thinking of me, but finding little hard evidence to support her theory that I was one of Improvement’s lost minds. I was finding no evidence of anything at all. All I knew was that my sisters and I had appeared spontaneously from the Air with preconditions and precepts intact. We could be copies of a girl who had once existed, remade in strange new forms, but just as plausibly we could be
some freakish emergent property of the Air itself. These possibilities were diametrically opposed but equally unnerving. Either someone very powerful was in charge, or no one at all.

Clair: “I didn’t come here for a lesson in law. Why are you here, Turner? What led you to WHOLE?”

Turner: “You want to know if there’s anything wrong with me? Well, let me stand up so you can get a good look. There; As you can see, there’s nothing wrong with me at all. I am perfect in every way. Do you agree?”

Clair: “Uh, sure.”

Turner: “Clair, I don’t need to suffer to know what’s right. There’s something very rotten in the state of d-mat, and it’s only getting worse. Can you tell me the first steps in establishing a dictatorship? They are very simple. First you rob people of their individuality, and then you find a way to observe them completely. D-mat offers the perfect means to do both. Go through a booth and everything you carry—everything you are, right down to the wiring of your brain—can be monitored without your knowledge. Tracking devices and bugs can be installed; information can be re-written or written entirely from scratch. That is the world we live in. No regime ever before has had the power to manipulate people so easily. It’s unprecedented in human history. And no one fights it. People fed convenience and prosperity seem to accept that they live in a world without physical value. Who’s to say their minds haven’t been made up for them? Once you can build people atom by atom, rewiring brain cells is easy—which might explain what to me seems so inexplicable, why the world is
teetering on the brink of a totalitarian dark age and no one but us complains . . .” (sounds of agreement)

Clair: “I didn’t come here for a sermon, either. Neither of us will get anywhere if we can’t reach the people—everyone, I mean, not just the people in this room.”

Gemma: “OneEarth will never take on d-mat.”

Clair: “No, but they might start with the dupes. We still have the body, don’t we?”

Ray: “We didn’t find anything in its lenses. All the data has been erased.”

Clair: “Figures, but that wasn’t what I meant. Dylan Linwood is officially still alive, and we now have hard evidence of the fact that he was killed at least once, that there’s been a parity violation. This proves there’s a loophole, somewhere. There’d be no hiding something like this. Once it’s in the public record—”

Gemma: “The public record can be altered.”

Clair: “So let’s make it really public. Let’s film it and put the lot where people can easily find it. People love a good conspiracy. The bigger the better. Isn’t that why I’m here—to be a witness? Isn’t that why Dylan put me and the chancellor up in the Air? Isn’t that what he died for?”

Arabelle: “He died because he openly declared himself. Once they knew he was one of us, he became both dangerous and valuable to them—a potential asset, not a threat. Their intent is always to infiltrate, and if they can find some way of achieving that, they will try.”

Gemma: “Failing that, they frame us for murder—because that’s what terrorists do. I’d advise against walking up to a PK with that body slung over your shoulder. Not unless you want to be damned with the rest of us.”
Clair: “Maybe we should look up the head of VIA and drop the body right onto his or her desk. Go to the top. Make it *their* problem, not ours.”

Arabelle: “VIA is at the heart of the problem.”

Clair: “What if you’re wrong about that? What if VIA suspects the existence of dupes and we have exactly the evidence they’re looking for?”

Arabelle: “We don’t want VIA’s help.”

Clair: “I honestly can’t see us taking on a problem this big without *someone* backing us. And who else is there? The peacekeepers? The federal government? OneEarth? They all benefit from the status quo; they won’t want anything changed. Only VIA is hurt when the word gets out how badly they’ve managed things. Because it’s not just the dupes—it’s Improvement and who knows what else? That’s our leverage. That’s how we should do it.”

Gemma: “You can’t really think it’d be that easy.”

Clair: “No, but that’s not stopping me from thinking at all. Look, we can argue about the means all day—you want to tear the system down and start again, while I want the system to fix itself, as it’s supposed to—but the ends we want to achieve are not that all that different. We want people to be safe. We don’t want people to be changed in ways they shouldn’t. Can’t we find a means of doing this together?”

Jesse: “Clair’s got a point. We should listen to her.”

Turner: “Ah, the irony. I want to say that words are not enough, when all I have are words, too. Here’s what I suggest, Clair and Jesse. We won’t dismiss your suggestion out of hand. It has merit, even if it does have some obvious holes. In
return, stay with us while you plug those holes. We need information, evidence—and we need young people like you, especially. That’s the real reason you’re here. You’ve seen what we see. You know what damage d-mat can do. Join us, and you could make a huge difference. You and Jesse, and your friend Q. Now you two are safe here in the Skylifter, at least think about it. Jamila will take you downstairs while we finish up here. There’s no need to rush into anything.”

A young woman with mismatched irises led Clair and Jesse down the spiral staircase, back to the D-shaped deck below, and I was able to observe them again. Turner’s offer struck me as both strange and tempting. What role would a creature like I have to play in an organization like WHOLE? Wasn’t I the very antithesis of everything they stood for—physical security, the sanctity of human flesh, normality? I couldn’t imagine Gemma viewing me in a positive light.

While I was busy reviewing the conversation, Clair asked Jamila, “You think Turner’s a good guy?”

“The best,” she said.

“Isn’t he a little young to be in charge, though?”

“Age doesn’t come into it. All that matters is getting the job done.”

“The job being to destroy d-mat, I suppose.”

The woman smiled as though Clair was asking a stupid question. “We’ll pray for you. I know you will come to the right decision.”

She vanished through the door and locked it behind her.
“What happens if we don’t?” Clair asked the walls of their prison.

“I guess we fake it,” said Jesse.

Clair returned to her cushion against the window and sat down, closing her eyes.

“Are you there, Q?”

“I’m right there with you. Hey—that rhymes.”

“Tell me what you know about VIA. Who’s in charge, where its headquarters are—that kind of thing.”

“I can tell you that the head of VIA is Ant Wallace.” Information flowed into Clair’s lenses from the Air. Anthony Reinhold Wallace was a white man of medium height and medium build, with a pleasantly symmetrical, trustworthy face and lightly greying hair. He had joined the organization as a volunteer twenty years earlier and risen quickly to the very top. He wasn’t an overt publicity seeker, but he was active in several public arenas, from urban planning to modern orchestral music. In particular, he was an advocate for increased research into the biochemical causes of depression and an occasional speaker at rallies urging the OneEarth administration to do more to inform the public on the issue.

“His office is in New York City,” I told her.

“What about Turner Goldsmith? Young guy, a bit too smooth for his own good.”

“I have a peacekeeper warrant outstanding for one Turner Archibald Goldsmith, but he’s not young. He’s listed as 82 years old.”

“Well, that can’t be right, unless he’s the original’s grandson, using a family name.”

“His records show no offspring.”

“Maybe he stole the old guy’s identity, then.”

“That would explain the discrepancy.”
It would. Label-swapping was much more common than I had ever imagined.

“I need a way to get to New York without being spotted,” Clair said. “Do you think you can help me with that?”

“Of course, Clair. Assuming d-mat is out of the question, I can suggest several alternate routes depending on—”

I stopped. Her signal was flickering in and out.

“. . . was that, Q? I missed . . . .”

“There’s some kind of natural interference at your end, Clair. I’ll try to filter it.”

“. . . fading again. What . . . ?”

“I’m detecting unusual readings, Clair.”

All my senses converged on the Skylifter. It was a bright speck gleaming in a shaft of light stabbing straight down from the heavens.

As I watched in horror, the light flared brighter still, and the Skylifter began to wobble.
Part Four: “Fall”

The mass-collection of solar energy was the other great paradigm shift that saved the human race from environmental collapse. Not ground-based solar power, however. The vast quantities of energy needed to turn back the tide (literally) came from Earth orbit, where enormous grids soaked up the radiated power of the sun and beamed it down to a thirsty world. The advent of d-mat had facilitated this development much more cheaply and quickly than previous space-transport methods could have. Once a freight booth was placed in orbit, any manner of satellite or vessel could be built in a matter of hours.

Prior to d-mat, a viable powersat grid would have been almost impossible to build; without a powersat grid, a worldwide d-mat network would have been impossible to run. The two advances ran in lockstep, breaking humanity out of its environmental prison.

One downside of the powersat grid was the means by which power returned to the Earth. Immensely concentrated microwave lasers were required, beaming constantly to broad receivers placed far from inhabited areas. The energy collected was then distributed via a near-lossless global superconductor network that, once the infrastructure was in place, cost very little to run. But the beams were dangerous, and in the days of air traffic would have posed a real hazard, from turbulence caused by atmospheric heating to the energy in the beams themselves. A direct hit could cook a wayward bird in an instant.

One such beam had just hit the Skylifter, and if I didn’t stop it, Clair would be cooked like the hypothetical bird long before the Skylifter fell back to the Earth.
I cast my mind out into the Air in search of a cause. I found a flurry of alarmed diagnostic agents noting the sudden shifting of the beam. It was a whole degree off-target—a dangerous error that had no immediately obvious source. Cascading chains of automated systems had failed, and were still failing now, as the beam remained stubbornly locked on its new target. Recriminations were already flying. No accusations, though. No one believed yet that this was a deliberate act. That would come later, when word of the Skylifter’s plight spread.

Want of a cause gave me no hope of finding an immediate solution. My one hope then was to rescue Clair. There had to be a way to do it. There had to be.

Hacking the beam itself would be too time consuming and conspicuous, and the Skylifter’s controls were beyond my reach, protected by the same shield that had excluded me from Clair’s meeting with Turner. Automatic systems were doing their best to keep the craft aloft, but heat and turbulence were taking a terrible toll. The Skylifter was spinning and listing at the same time. I feared for the occupants, and not just the one I cared for the most. There were no other aircraft in the vicinity. There was nothing I could commandeer to effect a rescue.

Unless . . . four airships were docked at the Skylifter’s base, sheltered by the mass above. They were unoccupied and their Faraday shields were inactive. Their firewalls were piecemeal things, with varying degrees of compatibility, incompletely patched. I forced my way into one of them, and through that one into the others, and quickly took stock of the systems available to me.

Telemetry revealed the dire nature of the Skylifter’s position. Whole chunks of its external shell were already sloughing away. Its upper observation dome had been breached,
allowing the beam to burn deeper into the structure. Much of the interior was dark to me, but there were signs of movement in the docking spire. Someone was alive!

“Is there anyone here?” came a voice over the ceaseless whistling of wind rushing by outside.

“Clair! I hear you!” I activated the airship’s propellers. Hope remained! “I couldn’t reach you through the ionization but I did patch into the airships’ control systems—”

“Whatever, I’m glad you’re here! Which ship do we take?”

“We” meant she and Jesse. The upload from her lenses revealed a panicky scramble through the airship, with numerous close calls. But for Jesse’s skills with a screwdriver, they might never have made it this far.

“Any of them,” I told her. “I’ll use them all to slow your descent, but once you’re free that won’t be a concern.”

The docking tubes were flexing and twisting like snakes. She and Jesse negotiated their way to the nearest airship and fell across the threshold into safety. Clair clung to the pilot’s seat, chest heaving. Jesse brushed past her and stared at the complicated controls.

“Do you know how to fly this thing, Jesse?” she gasped.

“You don’t have to,” I told them. “I will operate the controls remotely.”

I closed the door behind them, fastened the locking bolts and detached the tube. The pitch of the engines changed.

“We can’t leave yet,” said Clair. “We have to check on the others.”

“But the dome blew,” said Jesse. “They must be dead.”

“We don’t know that for sure. And if they’re alive we still need them. Q, can you take us to the top of this thing so we can check? Is there time?”
What could I say? I couldn’t refuse her.

“I will make time.”

“Do it. We have to try.”

The propellers roared and the airship tore away from the Skylifter’s base. Bright white light hit the airship as it came out from the shadow. Clair clipped herself tightly into the seat next to Jesse.

“That laser or whatever it is—it’s not coming from another airship,” she said, peering through narrowed eyelids out the automatically darkened windscreen. “It’s coming from above.”

I explained the full gravity of the situation to her.

“Someone’s trying to make this look like an accident,” she said. “Funny how things like this happen around people in WHOLE.”

“Yeah,” Jesse said, “real hilarious.”

I flew the airship up along the tapering tip of the Skylifter’s teardrop and out around its fat middle. The dirigible was leaning drunkenly and rotating once every ten seconds or so. The window of the room in which Clair and Jesse had been imprisoned came into view. I saw no other survivors.

“Higher.” Clair leaned forward as the airship neared the uppermost deck. It was hard to discern anything through the blinding light, even for me. At first I saw no one, but then, around a central spar that had once held the graceful curve of glass safely over the heads of the Skylifter’s inhabitants—

“There!” Clair pointed at a huddle of people in the scant shade provided by the spar. They were waving desperately to attract the airship’s attention. “Take us closer!”
“I see them,” I said. A new wash of static was making it hard to control the airship. It rocked on its roaring fan engines through the full effect of the powersat beam.

To Jesse, Clair said, “Get ready with the door.”

The air was turbulent and hot above the observation deck. Shards of plastic dome stabbed at the airship’s vulnerable underbelly. Twice, despite my best efforts, I caught the tip of a propeller on something I shouldn’t have, provoking outraged shrieks of metal and carbon fibre.

“This is as close as we get,” I told them. “I can’t hold this position long.”

Jesse opened the door and shouted something into the wind. The survivors emerged from their meagre hiding place, lurching across the windswept surface in a series of staggering steps. There was nothing for them to hang onto but each other.

Then there was a flurry of shouting and movement—bodies falling en masse through the open hatch, propellers screaming, white-flaring wreckage suddenly rising up to meet the airship—and then I had them rising, pulling away from the doomed Skylifter, out of the beam from the powersat, and the light was fading and the door was shut.

I felt as exhausted and relieved as anyone in that airship. Everyone was talking at once, gasping for breath or crying with mingled relief and shock. There were ten survivors, their skin red and blistered where it had been exposed to the beam.

“Where’s Turner?” called Dyta, pushing out from under the huddle. “Where is he?”

“Here.” He was helping Gemma to a seat.

“Thank god.”

“For small mercies, yes.” When Gemma was buckled in, Turner turned to Clair and Jesse. “We owe the two of you our lives.”
“Q did the flying,” said Clair. “We couldn’t have done anything without her.”

“The three of you, then,” said Turner. “We are all in your debt.”

Deep inside, unseen by anyone, part of me glowed with pride.

The bright column of the power beam was visible now the airship was out of it—not the beam itself but its glittery effect on the atmosphere, like dust sparking in a shaft of sunlight. The Skylifter was dropping away to one side, trailing debris as it went. There was a great deal of smoke.

“Where to now?” Clair asked.

Turner came forward to look at the instruments, and Dyta followed him.

“There,” said Turner, pointing at a map on a screen. “Take us in that direction.”

“Shall I surrender control?” Q asked Clair privately.

“Yes, you’d better.”

“Is there anyone we can call for help?” asked Dyta, settling into the pilot seat.

“No,” said Turner. “Don’t want to draw any more attention to us than you have to. We’re radar-silent, I presume.”

“Yes.”

Brightness hit the airship. The powersat beam had shifted. Static flared and my link to Clair went dead.

I cried out in alarm and anger, but no one heard. I could only watch in horror as the airship nosedived for the cloud-cover, driven by Dyta’s sure hand, I hoped.

Then an airbag blew, and the airship began to plummet.

“Clair!”
The beam traced a vivid line across the sky, tracking the airship until it disappeared into boiling whiteness.

The moment it was under cover, I regained control. Telemetry was a mess; the control systems were mostly burned. I had little to work with, and Dyta was fighting me, and there wasn’t time for niceties. Clair had to live. Clair had to live, no matter the cost.

A series of last-minute twists and turns put key sections of the airship’s frame under lethal stress. Certain fragments tore away, sacrificed to protect others that mattered more. Airbags burst, stanchions screamed. I glimpsed the green of trees and the red of blood, and then everything went black. The airship was dead. So were Clair’s lenses.

And I might as well have been too unless I could get her back.

#

The first thing to do was to ascertain if I was receiving nothing because no signal was being transmitted, or if it was because the signal was being jammed. Turner Goldsmith had guided the airship to its destination, more or less, so it was possible he knew people there. And if he knew people there, they might be as paranoid as he was. There was hope in jamming, I told myself; otherwise there was none at all.

It took some minutes to ascertain that the area around the crash site was indeed under an electromagnetic pall. No unnatural signals went in or out—but the jamming was much more sophisticated than that of the safe-house. Here there was still background variation; here there was no weird dip in the natural ambience of the inhabited Earth. A train line crossed the silent space, and its signals weren’t interrupted. Navigation data passed unimpeded. To a casual glance it might have seemed that there was simply nothing civilized in the area.
But that wasn’t the case. The vegetation was serried in rows of trees, like orchards. There was a central compound composed of several buildings. There were people—I saw them in the background of snaps taken of the crash site from far above. The Air was aware of the accident and directing its attention to the site, so I was able to pry into the nature of the environment without risking my own disclosure.

No rescue mission was mounted. The official word was that there were no survivors—but how could they know without physically checking? Again, I sensed powerful forces moving in the background. Or nothing at all, just a vast, unnerving incompetence.

What I was certain of was that Clair’s chunk of the airship’s crew compartment had been snagged by apple trees. Uncannily bright red fruit dotted the autumnal leafscape like dollops of paint. The sun was setting over the scene, casting long shadows under the warm tones of a melting sky. Faintly, I picked out movement around the base of the wreckage. Someone was alive. But was it Clair?

I attacked the wall of silence with everything I had, to no avail. All my finely-tuned senses found it utterly impenetrable.

But that was impossible. Information and people were an almost infinitely volatile combination. Whatever was going on in there, someone outside had to know. And if someone knew that, then they might also know how to get in. I constructed search grids along radiating lines of inquiry. I refused to be daunted by the sheer amount of data I would have to sift through. Giving up meant giving up on Clair. And giving up on Clair meant giving up on myself. What would I do without her? What purpose did I have if she was gone?

The cluster around the wreckage dispersed into smaller groups. Some led in a line to the central compound. Others scattered across the quiet zone, seeking other crash sites. Debris
was still falling from the Skylifter, inside and outside the quiet zone. Some fragments
descended surprisingly slowly, braked by long sheets of balloon material or by emergency
measures I had not been aware of. There might have been other survivors. They didn’t concern
me.

The sun was long down by the time I found my first reason to hope.

#

The orchard and quiet zone both turned out to belong to a farm that stretched across a
significant chunk of North Dakota, from the Little Missouri grasslands to the east almost as far
as Fargo to the west, north halfway to the Canadian border. Clair’s portion of the airship had
come down on the southern edge of the farm, near a ghost town called New Salem. Two
human generations earlier, a farm would have seemed perfectly normal. Now, with fabbers
responsible for generating food for everyone on the planet (everyone who wasn’t an
Abstainer) cultivated plants for anything other than decoration were a rarity. And even then,
the perfect rose only had to be grown once; copied, it could be reproduced as many times as
desired, complete with dew.

There was another reason beside food and decoration that humans had grown plants,
and some even believed it was the driving force behind the earliest forms of agriculture: to
make alcohol and drugs, two demons that had either addled human intelligence or been a
potent force for intellectual growth, depending on the agenda. A perfectly satisfactory drug
could be copied as easily as the perfect rose, but nature was a tireless laboratory technician,
eternally creating new compounds with unknown effects on human brain chemistry. Places
were rumoured to exist where cultivars were deliberately crossed or randomly mutated to see
what psychoactive substances they produced - and strictly speaking what people did in such places wasn’t illegal, just as long as they didn’t try to traffic what they made.

The more I studied the quiet zone, the more certain I became that this was what I had found. Why else the impenetrable security? The farm would need to defend itself from people trying to steal their seeds, as well as the peacekeepers. And how else to explain the connection to WHOLE? Honour among thieves, I thought. An illegal farm could supply biological agents for potential terrorist strikes, while a means of moving people and cargo that didn’t involve d-mat would be useful for the farmers. The two groups would share a natural affinity, even if their goals didn’t completely overlap.

All this I learned from peacekeeper files preserved under moderate security in the Air. Few charges had stuck to anyone associated with this particular farm, but it was known, and it was monitored. Movements to and from were meticulously logged. The area was so vast, though, and so much of it was overgrown, that comprehensive surveillance was impossible. There were means of moving around, I was sure, that wouldn’t be seen.

And then there was the matter of information. It had to be leaking somewhere, both in and out. No firewall was complete—not where modern technology was certain to be operating. I probed every lead I could think of, certain that I was missing something. All I had to do was keep looking and I was sure I would find it.

As it turned out, someone else found it first.

And then I found them, not a moment too soon.

# Clair did survive the crash. She and Dyta hung upside-down in a tree until Clair freed herself in time to confront the rescue party sent out by the farmers.
(unknown male): “You with Turner?”

Clair: “Why do you want to know?”

(unknown male): “This is a piece of his airship. We’re looking for survivors. Is he up there with you?”

Clair: “No.”

(unknown male): “He could be anywhere, then. Pieces of this thing fell all over. Are you going to shoot me or put that away?”

Clair: “Tell me who you are, first.”

(unknown male): “I’m a farmer, of course. Don’t you know where this is?”

Clair: “No.”

(unknown male): “So you weren’t headed here specifically?”

Clair: “We were originally planning to take the Skylifter to Buffalo.”

(unknown male): “Buffalo, huh? Well, that’s not here.”

Clair: “I guessed.”

(unknown male): “My name is Arcady. Turner trusts me, so you can trust me too. Or you can stay up there on your own. Your choice.”

Clair: “All right. I need a hand, though. There’s someone hurt up here.”

(sound of movement, vehicle engines)

Clair went off with Arcady, injured Dyta and two farmers in a four-wheeled truck.

When she asked where they were going, she was told simply and tersely “The Farmhouse”.

168
Every minute or so, with growing frequency, she checked for the Air and for me, but of course received nothing in response.

The service road they were following hit a T-junction, then wound around a broad reservoir. This was one of the small migration of vehicles I had tracked from orbit. They crested a low hill and drove down into a broad depression, where lay the cluster of buildings that was the heart of the Farmhouse.

Dyta was carried carefully inside. Clair followed with Arcady. Voices came at her from everywhere, almost impossible to decipher. Arcady passed her over to a farmer who took her to a quieter area. There she sat for ten tense minutes. Then another man joined her and introduced himself as Arcady’s husband, Axel.

Axel: “Hello, Clair.”

Clair: “How do you know my name?”

Axel: “From the video of you in the chancellor’s office.”

Clair: “You’ve seen it?”

Axel: “Parts. I didn’t think it was real until you dropped in on us. Literally dropped.

We heard reports via shortwave radio of an airship damaged in a power beam accident. That told us two things: one, WHOLE is involved, because no one else flies airships so far from the coast; and two, because WHOLE is involved, the beam was unlikely to be an accident. We mobilized immediately to search for survivors.”

Clair: “Who else have you found apart from me?”
Axel: “We’re still hearing from the search crews. There’s a kid called Cashile. An old
guy called Dariusz. No sign of Turner, yet.”

Clair: “What about Jesse?”

Axel: “I’m sorry.”

Clair: “What does that mean? That he’s dead?”

Axel: “It means we haven’t found him. That’s all.”

(silence)

Clair: “Arcady’s not happy to see us, is he?”

Axel. “We live quietly here. We don’t like attention or surprises. But we know Turner
Goldsmith’s crew and we’ll be glad of every life spared. We’ll drink to those
lost.”

Clair: “Is there a reason I can’t access the Air?”

Axel: “Come on. I’ll show where you can freshen up. Might as well put the wait to
good effect.”

Clair: “Do I smell that bad?”

Axel: “Yes. I’m afraid you do.”

The farmer showed her where to shower and gave her a fresh set of clothes. Axel was
cagey with Clair about the purpose of the farm, even when she guessed the truth. But he
wasn’t overtly hostile or suspicious. He accepted her arrival with caution and equanimity.
When she was clean, he took her back to the main hall, where survivors and farmers were
making each other’s acquaintances around a hastily provisioned meal. Turner had been found,
and Gemma and Jesse, too. Relieved greetings were exchanged, and sad farewells too.
Axel: “Here’s to fallen friends.”

Turner: “To Dancer, Theo and Ray.”

Clair: “To Zep.”

Jesse: “To Dad.”

Arcady: “To life, and the hard business of living it.”

After dinner, conversation turned immediately to what had happened and what might happen next, driven by Clair.

Clair: “You knew about the dupes all along. Why didn’t you tell us?”

Gemma: “You wouldn’t have believed me.”

Clair: “Is there anything else I need to know?”

Gemma: “You tell me. What’s the relationship between Improvement and the dupes?”

Clair: “Well, the dupes stepped in when Jesse’s dad tried to get the word out about Improvement. They protected the secret. So that means there’s a connection. Yes?”

Gemma: “That’ll do.”

Clair: “Do you know what they want?”

Gemma: “Your guess is as good as mine.”

Clair: “I guess it doesn’t matter. Stop one and we stop the other. That’s the main thing.”

Gemma: “Exactly what we’ve been trying to do.”
Clair: “No, you’re not. You’re burning down the house to roast a pig. If we bring down d-mat, I’ll never get Libby back.”

Gemma: “Forget Libby. Don’t wait for Improvement to finish the job, if it hasn’t finished already. Save yourself the agony and get used to her being dead.”

Clair: “She’s not. That’s the thing I think I’ve worked out. There are rules to how d-mat works. Things have to even out. So what happens to minds that are pushed out by the dupes? Where do they go?”

Gemma: “They’re erased.”

Clair: “No. Data can neither be created nor destroyed, Q said. If you can’t erase the data, that means those minds are still out there, somewhere—and so’s Libby’s original pattern. All we have to do is find it and we can put her back the way she was, before the brain damage.”

Arcady: “Interesting. Our private net does everything two, three times. It’s the only way to weed out errors. Our safety net is basically a big memory dump. We zap something; we keep its data in limbo until we’re absolutely certain it’s come out the other side okay. We call this limbo the hangover. Obviously our net is different from the one VIA monitors, but I’m betting it works the same. If you don’t empty the hangover, the data stays there forever.”

Clair: “Yes! The hangover. That has to be where she is. Brilliant! And that means we need VIA more than ever, now. They’ll naturally be able to access their own hangover. They’ll be able to pull out what’s in there and put Libby back the way she ought to be.”
Gemma: “What about your hacker friend? Couldn’t she just break in and get Libby out?”

Arcady: “Winning this battle isn’t enough. The war’s the thing.”

Clair: “Exactly. We have to stop it happening to anyone else. I know we don’t see eye to eye on everything, but surely we both accept this. Right? So we need each other—and we need VIA, too. Even together we couldn’t do it without Ant Wallace’s help.”

Gemma: “He’ll just cover it up like he does all the other mistakes.”

Arcady: “Shame is a powerful motivator. If you had some kind of physical evidence, there’d be no way to argue with it.”

Gemma: “They body we captured went down with the Skylifter.”

Arcady: “There’ll be others. You can be sure of that.”

Clair: “We are safe here, aren’t we?”

Arcady: (quoting T. S. Elliot) “There are no eyes here / In this valley of dying stars / In this hollow valley . . . .”

Clair: “No, seriously.”

Arcady. “Seriously. Our booths are completely sealed, there are no comms in or out, and we have deadly serious active denial systems all around our borders. You’re lucky you didn’t come in that way, let me tell you.”

Clair: “They’ll try to search the wreckage.”

Arcady: “Maybe we’ll let them rather than cause a scene, but they won’t find anything. I promise.”
He was wrong, but I liked him anyway—even after the fact, even after his wrongness almost killed them all. Like Clair, he knew his literature.

#

The impromptu meeting ended shortly thereafter. Axel showed Clair to one of the dormitories, where she slept for approximately four hours, not knowing the efforts I was making to get to her. In turn, I didn’t know about the plans she had made. We were approaching each other from opposite ends of the spectrum, unaware of where we would eventually meet.

She dreamed. Through the recordings I uploaded from her lenses later that night, I heard her whispering: “You’re beautiful. You’re beautiful, like me.”

The voice didn’t sound like hers.

#

When she got out of bed an hour before dawn, the Farmhouse was as silent as the grave. For some of its inhabitants, that was literally true.

I was two rooms away, without knowing it, inhabiting a body I had commandeered in transit the second time in two days. That it was the same body didn’t make it any less weird. I was barely stable in its skin. I knew I didn’t have long, even with the extra precautions I had taken this time. I had to find Clair and warn her before it was too late.

I didn’t know that she and I were circling each other, going in different directions through the complex, me seeking her, she a toilet. What she found was a familiar face.

Clair: “Sorry, Jamila. It’s just me.”

(unknown female #1): “Clair?”

Clair: “I thought the search had stopped. Did you come down with the Skylifter?”
(unknown female #1): “Yes. I’m looking for Turner.”

Clair: “Well, I’m looking for the toilet, so let’s help each other out.”

(unknown female #1): “All right.”

Clair: “The hall’s this way, I’m sure.” (silence) “How far away did you crash? Did you have any trouble with the farmers? I think they’re mostly okay, just naturally suspicious.”

(unknown female #1): “No trouble. Is Turner far from here?”

Clair: “Don’t tell me you’ve got a crush on him.”

(unknown female #1): “Are you kidding? He’s over eighty.”

Clair: “You’d never guess to look at him. What’s his secret, do you think?”

When they reached the hall, Clair saw more familiar faces, but it took her too long understand that this was a bad thing.

(unknown male): “Any luck?”

(unknown female #1): “Found this one. She might be able to help us with the rest.”

(unknown male): “Good work.”


(unknown female #2): “Grab her. She’s going to run.”

(sound of scuffling)

(unknown female #2): “No alarm?”

(unknown female #2): “None.”

(unknown female #3): “Sentries are down. Let’s get a move on.”
(unknown male): “Now, Clair, I’m going to take my hand away and you’re going to
tell me where Turner is. Scream and I’ll break your neck. Understood?”

I walked right into the thick of it. Clair had twisted free of the dupe in Ray’s body and
was running for the door. The other dupes were after her, knowing that if she raised the alarm
their plan would be ruined.

Clair saw me in Libby’s body and skidded to a shocked halt.

“There you are,” I said. For an instant I saw only her. My relief was too great to
acknowledge the danger we were in, or the fear in her eyes. “I’ve been looking for you.”

“Be cool, Mallory,” said the dupe in Theo’s body. “We have everything under
control.”

Reality hit hard. I looked from Clair to the others. Everyone was looking back at me—
or, rather, looking at the person they thought I was. I felt as though I was seeing through a
long, misty tunnel. If the dupes realized I was an imposter, they would turn on me as one.

I raised the pistol I was holding and shot the dupe in Ray’s body square in the chest.
The sound was deafening, the action devastating. He went down in a shower of blood and for
a second the others just gaped at him, shocked by the suddenness of it all. The dupe in
Arabelle’s body was still staring at him when I shot her as well.

Then the others were reacting. I pushed Clair behind me and backed into the doorway,
firing as I went. She stumbled but got to safety. Bullets ricocheted around us, kicking up
splinters and whining like angry bees. One caught me high on the left shoulder, and, weirdly,
for an instant I didn’t feel anything at all.

Then the pain flared and I was overwhelmed.
Someone screamed. It was me, I think, but I don’t remember consciously willing it to happen. It just did.

Clair took charge, grabbing my uninjured arm and pulling me backward, out of the firing line.

“Clair, it hurts!”

“Give me the gun, Q.”

The pistol slipped easily from Clair to me. She hefted it in her right hand and swung it behind us as we rounded a corner. She blasted a couple of times at the dupe in Jamila’s body but we didn’t stop to see if she hit anything.

“Through here,” she said, pushing me ahead of her into the kitchen. I could hear raised voices and alarms. Lights were coming on all around us. “Come on, Q.”

“It hurts.”

“I know, but there’s nothing we can do about it now.”

“Why does it go on hurting? How do I make it stop?”

“Be quiet, Q, or they’ll find us.”

Too late. A bullet missed Clair by millimetres, and she dragged me down behind a stainless steel bench. Bullets slammed into it in quick succession. Clair put her hands over her ears. The sound alone was painful, but it was nothing compared to the agonistic fire in my shoulder.

Then a deeper note joined in, boom-boom, and suddenly everything was quiet again.

Clair lowered her shaking hands and raised her head slowly over the edge of the bench.

“Arcady!”
He was standing naked in the doorway, holding a shotgun. Clair left the pistol on the floor next to me and stood up. He pointed the shotgun at her, then lowered it. There was still gunfire coming from elsewhere in the Farmhouse.

“Back to the hall,” he said. “Safety in numbers.”

Clair reached down and pulled me to my feet. I was limp with pain.

“It’s okay,” Clair told him when he raised the shotgun again. “She’s a friend.”

“She’s dressed like one of them.”

Of course I was. That was how I had come to be in the Farmhouse, by being one of them. The dupes’ uniform was a black bodysuit with retractable hoods designed to help them sneak past the active denials systems outside.

“Q duped the dupes,” Clair said in a firm voice. “She can explain for herself.”

#

By the time we were in the hall, my limbs were shivering and teeth chattering uncontrollably. Arcady put me on a table at the centre of a growing audience. Clair tore a sleeve off her top and tied it around my bullet wound. The cloth immediately turned a bright, sodden red.

“Shock,” said Axel.

“You’re a chemist, not a doctor.” Arcady wasn’t concentrating on me, though. He was staring at a double line of bodies: dupes on one side, sentries on another. The body count was eleven in total. “That’s a flesh wound, nothing serious.”

“It feels serious if you’ve never been shot before.”

“This has nothing to do with the bullet,” said Clair. “I’ve seen it before. Her mind doesn’t fit Libby’s body. She needs to go back into a booth and d-mat out of here.”

“Sorry,” said Arcady, “but that’s not going to happen.”
“If she doesn’t, she might seriously hurt herself,” said Jesse, pressing through the crowd to stand opposite Clair, on the other side of my borrowed body. He was wearing pyjama pants and no top and looked very skinny and pale.

Arcady said, “What I mean is, it can’t happen. We have no way of connecting to the outside world, even if we wanted to. No way at all.”

“Not true.” I tried to sit up but the pain was too great. Jesse helped me onto her elbows.

“That’s how we got in here. Me and the dupes. By d-mat.”

“Aren’t you listening to me?” said Arcady again. “Our system is closed.”

“All systems are leaky. You receive weather reports and software updates, don’t you?”

“Yes, but—”

“The thin end of a wedge,” I said. “One crack is all it takes. One line of code to widen the crack . . . one executable in your private net, one custom chip built from scratch in a duplicating booth, one transmitter to widen the bandwidth . . . Step by step, they got in deep. It took them less than eight hours to slave your private network to their data. If I hadn’t found them, I would never have been able to piggyback on their signal.”

“You led them to us,” said Arcady to Turner. His voice quivered with fury. “You brought them right to our doorstep.”

Turner was standing to one side with a blanket over his shoulders. He had been quiet ever since the principle purpose of the breach had been revealed to him. I’m looking for Turner. “I’m sorry. We had no idea they would respond so quickly.”

“And you could have stopped this,” Arcady accused me. “You did nothing to warn us.”

That was true, but Clair sprang to my defence anyway.
“She’s here, isn’t she?” Clair took my twitching hand and held it tightly. I tried my best not to weep. “And if the people who sent them don’t know their team is down, that gives us time to work out what to do next.”

“I don’t approve of fighting fire with fire,” said Turner. “But Clair is right. Q put herself at risk. Without her we might all be dead now. Duped like them, or worse.” He shivered and pulled the blanket tighter around him.

“Worse?” said Arcady. Then he shook his head. “Whatever. We’re pulling the plug on the booths. Then I’ll take an axe to them myself.”

“Not yet,” said Jesse. “First she needs to go back into the booth. Otherwise she’ll die.”

A ring of worried, puzzled faces stared down at me as I spasmed and shook on the table.

“How come the dupes can do this,” asked Dyta, “and she can’t?”

“They’ve had more practice,” Clair guessed. “We have to send her back to the hangover.”

“I’ll give you . . .” The twitching of my jaw muscles made it hard for me to get the words out. “. . . give you the woman . . . who was supposed to be here.”

Clair gripped my hand tighter. “Yes, of course! Someone must have been on their way already, in Libby’s body, otherwise Q couldn’t be here now. There’d be a parity violation.”

“So what?” asked Arcady.

“The dupes were expecting this other woman. They called her Mallory. They deferred to her. She might be the one giving the orders.”

“All right,” he said, cautiously. “We’ll trade your friend for one of theirs. Then we use the axe.”
Two of the farmers lifted me in Libby’s body and carried me through the farmhouse. Clair stayed close, still holding my hand. I was barely able to squeeze back. My muscles were getting weaker by the moment. Was that the fault of the bullet or my imperfect control of Libby’s body? I didn’t know. I wondered if this was what it would feel like to die.

The booth I had arrived in was a big industrial machine shaped like a water tank with curved walls. Its mirrored surfaces had seen better days but were perfectly functional. They laid me on the floor inside and stepped back.

“Are you okay from here?” asked Clair, the last to leave.

My head moved fitfully. “It h-hurts, Clair. I j-just want it to s-stop.”

“Is there anything I can do?”

There was nothing.

Clair lingered a second longer, as though she didn’t want to go, then she released me. Was she thinking of Libby or of me? I couldn’t tell.

The door slid shut behind her and the machine hummed and hissed, cycling matter and data in furious streams.

ssssss

And so, after saving Clair, I was released.

#

This is the only record that exists of what happened next.

(sound of booth in operation)

Clair: “They Improved Arabelle, and Theo too. The dupes recognized the errors in their patterns and made them right.”
Gemma: “Is that how you knew?”

Clair: “That and the guns they pulled on me.”

Arcady: “They won’t get a second chance. I promise you.”

(sound of booth opening)

Clair: “Hello . . . Mallory.”

Mallory: “You know my name. How resourceful, Clair Hill. But don’t think it’ll make any difference.”

Clair: “Tell us about Improvement. Tell us about the dupes.”

Mallory: “Oh, yes. You are definitely not hiding in anyone’s shadow now. One day soon you’ll appreciate the irony.”

(sound of finger snapping)

(sound of body falling to the ground)

(sound of shouting and sudden movement)

Axel: “She’s dead!”

Arcady: “How?”

Axel: “Suicide. Something internal . . . I don’t know.”

Clair: “So we couldn’t get anything out of her, I guess.”

Jesse: “Who would do that?”

Clair: “Someone with nothing to lose.”

Arcady: “Secure the body. It’s time to make plans.”

# Clair didn’t waste time making plans. The council of war took place in the Farmhouse’s main hall within minutes of Mallory’s death. Again, I could not tell what was going through her
mind. She wanted resolution, but did she want revenge too? After all, she had just witnessed the death of her best friend’s body. That must have shocked her deeply. But if it showed, it showed in ways I was unable to interpret.

Turner: “We must leave here immediately. We’re putting you all at risk.”

Arcady: “You won’t be leaving alone. It’s our fight too, now.”

Jesse: “But where do we go? What are we supposed to do?”

Clair: “Ant Wallace is still our best hope. If we show him Libby’s body, he’ll have the evidence he needs to act. But we need to do get to him quickly, before the dupes find another way to get to us.”

Arcady: “I agree. Time is short, and taking this on singlehandedly is just stupid. We need the watchdog on our side.”

Turner: “The watchdog is toothless. It hasn’t even barked in years.”

Axel: “You obviously haven’t smuggled any illicit molecules recently. Or tried to sell a bootleg Mona Lisa.”

Gemma: “Small fry. People ever knew what d-mat could really do to them, the world economy would grind to a halt.”

Axel: “That’s our leverage, then. We force them to act. They’ll have no choice when we’re banging on their door.”

Dyta: “Do they have a door?”

Arcady: “They do. In Manhattan.”

Jesse: “We’re exposed here. We should leave right now.”
Turner: “All right, I agree.” (sounds of dissent) “Friends, we need to go for one simple reason. If Wallace won’t listen, WHOLE will be there to take direct action.”

Jesse: “What does that mean, exactly?”

Turner: “It means whatever it needs to mean.”

Clair: “So how do we get there? We can’t fly or they’ll shoot us down. We could drive, but they’d always be one step ahead of us. The booths are smashed so we can’t even think about using them.”

Arcady: “There’s a better way: train hobbyists.”

Clair: “You must be joking.”

Arcady: “No, the farm uses them all the time. A working line runs right across our property. Engines go by once a day—out west at dawn, back east at dusk. We catch the next one, we’ll be on the coast in two days, maybe sooner.”

Gemma: “What about when we reach the coast? You can’t really expect us to swim the rest of the way.”

Arcady: “Of course not. We’re going to take a submarine.”

Clair: “Come on, be serious.”

Arcady: “I am. And they won’t believe it either. That’s why it’s the perfect plan.”

#

They were provisioned and ready to move within the hour, shortly before dawn. The party consisted of Jesse and Clair; Gemma, Dariusz and Turner from WHOLE; Arcady and three young farmers, Shannon, Lorne and Derryn. Libby’s body was wrapped in plastic and loaded with several bags of supplies. Axel and the rest of the Farmers were staying behind with Cashile and Dyta.
Axel: “Someone’s got to mind the farm, as they say.”
Clair: “Do you think the dupes will come back?”
Axel: “If they do, we’ll ready for them.”
Lorne: “Nobody fucks with the Farmhouse.”

The journey by road took over an hour. They could have gone straight to the track, Shannon explained, and flagged down the train as it came by, but why make it easier for anyone watching to work out what they were doing? Satellites would notice the train stopping in the middle of nowhere and someone would wonder why. Instead, they turned onto the old Route 94—now a green strip with one broad lane for farm traffic—and headed west across the prairie for the town of Mandan on the bank of the Missouri river, where the train stopped anyway.

Their connection to the Air returned when they reached Route 94. I saw them reappear but stayed silent. It was enough that I knew Clair was safe, and that she had made plans. VIA occupied the One Penn Plaza building, a skyscraper on the west shoreline of the main island of the Manhattan archipelago. The original suggestion, back at the Farmhouse, had been to follow the Jersey Peninsula all the way to the seaport on 34th Street, but that was ultimately considered too public. Fortunately for the conspirators, there were numerous ways to wend through the archipelago of drowned boroughs in order to delay coming aboveground until the very last minute.

Turner: “The subway. Penn Plaza sits right on top of one of the old stations.”
Arcady: “It’ll be sealed up.”

Turner: “And flooded. But that’s okay if your friends’ subs will fit through the tunnels.”

Arcady: “We’ll ask when we meet them. It’d be a perfect way to get in close without being seen.”

That seemed sensible to me, but I didn’t pipe up to say so. I was making my own plans, and still recovering from the shock of my second transformation.

Mandan was nothing more than a series of old buildings and apartment towers with no local industry or services, but it was large enough to have eye-in-the-sky drones surveying the empty streets. The convoy reached the train station unmolested and under the eaves of an ancient wooden building Clair and the others unloaded and stretched their legs. The train was approaching from the west. The light of the morning sun caught it, made its polished fittings shine.

“Are you sure this is a good idea?” Clair asked Arcady.

“Don’t worry,” he told her. “These guys are playing toy trains at a one-to-one scale. It’s a joke, like rocket enthusiasts and car racers. No one ever pays them any attention.”

“Never say never,” said Turner. “Remember what happened at the Farmhouse?”

“I will never forget what happened at the Farmhouse,” Arcady said.

The train pulled up to the platform in a cacophony of metal, grease and glass, an antique from an age when such things were necessary, not just possible.
Arcady went to the front of the train to talk to the drivers, waving the rest of them behind. “Let me settle their nerves before we get onboard, in case they’re worried about us turning up unannounced.”

Clair paced back and forth. Gemma joined her at one end of the platform

“You’ve toughened up,” Gemma said, as though she were admitting something shameful. “You were weak before, like everyone who uses d-mat. It gets in your brain, softens it. Stop using and you get better fast. You know that now.”

Clair didn’t respond.

“You still think we’re out of our minds, though,” Gemma said. “Don’t you?”

“Yes. Going by train is crazy. But what’s the alternative? Q could easily fab us some more electrobikes, maybe even another ATAC, but that didn’t work at all well last time.”

Gemma shook her head. “That wasn’t what I meant. The whole d-mat thing. You think we’re not just wrong—we’re completely around the bend.”

“Oh. The feeling’s mutual, isn’t it? Dylan Linwood called me a zombie.”

“That sounds like him.” She hung her head. “It’s not easy, you know, being in the minority. I mean, what are the odds that everyone else in the world is wrong and you are right? The moment you start to doubt, everything comes crashing down around you . . . .”

“It takes a lot to turn a world upside-down,” was all Clair said. “I’m still hanging in there, aren’t I?”

“You are, yes, and I expect you will be afterwards, too. Promise me you’ll look after Jesse, since you’re the one who dragged him into it.”

“Drone!” someone called, and suddenly everyone was moving.

#
Clair ran back to the others, holding her pistol loosely at her side. Arcady and one of the drivers, a portly man in a black and white cap, came running from the opposite direction. Jesse was pointing over the top of the train. The drone was no longer visible, but he assured them it had been there. Derryn backed him up.

The driver tapped a code into the door of the nearest carriage.

“Better get you inside. The longer we sit here, the weirder it will look.”

The carriage opened with a heavy, hydraulic hiss, revealing a long, empty space within. The three young farmers drove the vehicles inside, and Arcady hustled people in after them. Clair lifted her pack in one hand and waited her turn.

“It’s back!”

Lorne pointed along the train, to the rear. The drone had dropped to head-height and was flying along the carriages directly toward them, its tiny electric fans whirring loudly.

“Shoot it!” Derryn called.

Shannon drew his pistol, but Arcady intervened.

“We can’t,” he said. “We don’t want peacekeepers on our tail as well.”

“But if it sees us the dupes will know where we are.”

“It’s already seen us, and how do we know the dupes are looking through this thing, anyway?” He stared down the young man’s agitation. “We’re legitimate passengers. We’re not carrying anything illegal. Let’s see what it does before we go off the deep end.”

Clair crossed into the carriage ahead of Lorne, and he and Arcady followed. The train driver tapped at the keypad, but nothing happened. He stepped inside and tried a matching pad next to the hatch. Tried it twice, to no avail.

“Something’s interfering.”
The drone came alongside and floated there, looking at the driver, the train, and the people gathered within.

“Okay,” said Arcady, reaching for the jammer. “Now we kill it.”

“Wait,” said Clair. The drone bobbed gently in front of her, fans whining.

Inside the drone, a war was taking place.

I won.

“Sorry, Clair,” I said through the drone’s PA speakers. “It took me much longer than I expected to install my own command agents and disengage the—”

“No worries, Q.” Clair relaxed along with the people around her. “I’m just glad it’s you.”

I flew the drone into the carriage. People made space for it—except for the driver, whose face held a mixture of fascination and alarm.

“You’ve hacked the PKs?” he said. “What do you need us for?”

“Special case,” said Arcady, waving aside any possibility of an explanation as though he did this kind of thing every day. “Just get us on our way.”

“The door—”

“I think it’ll close now,” said Clair. “Won’t it, Q?”

“I will release the controls,” I confirmed, “now we have a secure means of communication.” Taking control of the train had been easy, but I needed to talk to them, not drive them off the rails.

The driver punched the code and the door closed behind him.
I hadn’t anticipated another Faraday shield, although I should have. Human society, I was learning, contained an unprecedented number of undeclared and for the most part unobserved bubbles. It was like there were two worlds existing side by side, hardly touching.

A moment later, the door opened again and I was able to see through the drone again.

“I lost you for a moment there, Clair.”

“I know, Q. Me too. Don’t worry. As long as you can see the carriage from the outside, you can tell we’re safe.”

“All right.”

It would have to do. The train was pulling out.

“We’re going now, Q. We’ll have to shut the door again.”

“Travel safely,” I told her.

“We’ll check in when we can,” Clair said. “Keep an ear out.”

“I will, Clair.”

Arcady closed the hatch, and we were disconnected again. The train was moving faster now, turning steadily to the right. I watched patiently and calmly. Everything I needed for my survival was in that train. But unless someone physically attacked it, there was no reason to worry. The dupes’ failed attempt to kill Turner—and maybe the others with him as well—didn’t reassure me that there would be no attack, but I saw no sign of it. The train was a moving target. The dupes couldn’t avoid being conspicuous if they were to take it out.

I understood that they were like me: creatures that lurked in the shadows, afraid of coming out into the light. And that, of course, was how Clair planned to attack them. VIA would turn a spotlight onto them, and they would crumble into dust, like vampires.

#
Not all nightmares vanish with the dawn.

Over the transcripts I downloaded later, I heard Clair dreaming again. The voice she used in her sleep had returned.

“You’re special. You’re unique. You’re beautiful . . . .”

I could only imagine what was going through her mind. I never dream, but perhaps I did once, I thought, and that made it all the more fascinating to speculate. Humanity’s literature is full of dreams of other places, other people, other versions of themselves. When Clair dreamed, I supposed, she was imagining the better version of herself that she was becoming.

*You’ve changed*, Gemma had told her. Clair is *Improving*, I told myself.

I didn’t truly understand what *identity* meant at that point. I understood only labels. Just how slippery they were too hadn’t truly sunk in yet. Clair was Clair, and that was all that mattered to me.

What mattered to *Clair* was more of a mystery, apart from becoming a better person. Maybe she thought there was still a chance of making Libby like her again, despite everything that had happened, everything she had seen.

That was how I read her first utterance when she woke in the darkened carriage.

Clair: “God, I hope it’s not too late . . . .”

Turner: “Deceitful as it is, hope at least leads us to the end of our lives by an agreeable route.”

Clair: “Oh . . . is that a quote?”
Turner: “More or less. Someone French, a long time ago.” (sound of movement) “You can’t sleep either.”

Clair: “It’s not that. I mean, I was asleep, but . . . . I think I might’ve done something very stupid.”

Turner: “If I worried about every stupid thing I’ve done, I’d never sleep again.”

Clair: “You’re not the worrying kind. I can tell that just by looking at you.”

Turner: “Like hope, appearances are deceiving. You said that yourself on the Skylifter.”

Clair: “Right. Everyone says you’re eighty years old, but that’s obviously not true.”

Turner: “I’m eighty-three next month.”

Clair: “Fine. Whatever.”

Turner: “I’m not lying. You asked me once what led me to WHOLE, and I told you there was nothing wrong with me. That isn’t entirely true, depending on what you regard as wrong or right. D-mat has cursed my body. My very existence is a lie and a curse—a curse many, unfortunately, would kill to possess.”

Clair: “D-mat gave you eternal youth?”

Turner: “D-mat mutated me, gave me an abnormal life. It’s set me apart from everyone. When it started to show, I had no choice but to abandon the people I loved. I can never go back, or people will ask questions. They can’t ever know and I can’t ever be normal. God help me if I tried to have children. What horrors might they inherit from me? That is the vilest thought of all.”

Clair: “Haven’t you had your genome sequenced, diagnosed—?”
Turner: “No! Were someone to learn what I am, the secret could never be contained. We’d be back where we were fifty years ago, overpopulated, poisoning the planet with our filth. Really, I should wear gloves and shave my head, or lock myself in a bubble, or kill myself—but I am human to that extent at least. I want to be part of the world and make a change for the better.”

Clair: “But d-mat saved the world. Why do you hate it so much, when it’s helped so many people?”

Turner: “I didn’t always hate it. Before the wars I worked on the control software for the consortium that brought d-mat into being. I was an AI engineer. We called ourselves ‘wranglers’, like with cattle. AI were strange, new things. The concern was that they would break out and take over the world. We were more worried about AIs than d-mat itself, which is ironic! That was before we had a better idea of what intelligence was, of course. We imagined huge, planet-sized minds gobbling up every piece of knowledge we had and destroying us all. Now we know that we can have either big minds that are dumb across the board, or small minds that are super-smart at only one or two things. What we were afraid of just can’t exist. So the AIs we have today are vigilant, tireless and thorough, but they’re great at missing the obvious. Consciousness is complexity, Clair, and the only way we’ve found to make that is the old-fashioned way.”

Clair: “Were you good at it, taming AIs?”

Turner: “Not really. That’s how I ended up wrangling people instead. I do remember the big, dumb AIs we built for VIA, though. We named them for philosophical
concepts concerning the nature of things. Different concepts because they handle different roles in the d-mat process. One AI is all about numbers and atoms—the essential math that leads to a thing being what it is. That’s Quiddity. The other is about the subjective quality of the finished thing: whether it’s still the same or not, even though every physical piece comprising it has changed. That’s Qualia. It’s amazing the system hasn’t cracked completely open with those two, very different minds at its heart.”

Clair: “I read somewhere once that every time we think of a memory, we erase it from our mind and re-write it again. Like every time we use d-mat.”

Turner: “You’re going to say and we still know who we are.”

Clair: “Uh, yes.”

Turner: “Can you tell me what happened at your tenth birthday party, Clair? How it felt the second time you kissed someone? What you had for breakfast ten days ago? I didn’t think so. Now, imagine that those missing memories are actually pieces of your brain, or your heart, or your eyes. Is thinking that you know who you are still reassuring?”

Clair: “But we lose bits of ourselves every day anyway. Skin, eyelashes, fingernails—and no one cares. Aren’t all the cells in our body replaced every seven years?”

Turner: “That’s a comforting myth, I’m afraid. Some cells are never replaced. And the tissue we shed that way is dead tissue. If we chopped working cells from your muscles or brain, you’d notice for sure.”

Clair: “What about that line they always quote about the toenail—the total amount of human lost every decade?”

194
Turner: “What about Jesse’s mother? She disappeared and she’s bigger than a toenail.”

Clair: “Yes, but—”

Turner: “It’s all about what you measure. Define human. Define missing. Hell, define toenail. Lies, damned lies and statistics, remember. Don’t forget, d-mat started as nothing more than a new way of moving matter around, and look what happened. It saved the world, Clair, but it might yet destroy us all. No one saw that coming, even those of who were there at the beginning.”

Clair: “So you don’t think we’re going to achieve anything with Ant Wallace?”

Turner: “I don’t know, and I’m going to try not to lose any more sleep over it. Thank you for keeping me company. It has been agreeable, as some old French guy might have put it. I like your energy. It gives me hope to fight alongside someone like you.”

(silence)

Clair sat awake the rest of the night, thinking thoughts I couldn’t have read, even had I been there. Turner and the others didn’t stir until the carriage changed locomotives at Chicago, jerking through sidings then resuming its journey without significant pause. Arcady told them that they had followed the old BNSF line through Duluth, and were now on the CSX line to Pittsburgh. That accorded perfectly with my observations, allowing me to track the timing in retrospect.

Farmers played cards against Turner and Dariusz, and the carriage was soon filled with camaraderie and conversation, but not everyone joined in. Gemma said nothing unless spoken to. Jesse was silent too: judging by the sounds in the carriage he was inspecting one of the
farmers’ vehicles. Clair was still thinking, but when she got up to use the toilet, she whispered something to herself that I couldn’t make out, and when she emerged, she broached a conversation with Jesse that changed everything.

Jesse: “Dad tried to teach me about this stuff, but anything with wheels bored me out of my skull.”

Clair: “Jesse, I need to talk to you. In private.”

Jesse: “Okay. In the cab?”

Clair: “Sure.”

(sound of movement, doors slamming)

Jesse: “What’s up?”

Clair: “Don’t tell anyone . . . but I tried Improvement.”

Jesse: “You what?”

Clair: “After I saw your dad the first time. He said it might be a way of tracking girls like Libby, remember? I wanted to find out for myself, so I used it—a few times, in fact. I forgot the note was still on me when the dupe came after me. I d-matted eight, nine times before I got rid of it, maybe more. It didn’t seem to do anything . . . at first.”

Jesse: “What do you think now?”

Clair: “I think the brain damage your dad talked about was deliberate, not accidental. I think Improvement and duping are different aspects of the same thing. And I think there’s a bit of someone else in me now, and she’s starting to show.”

Jesse: “Huh?”
Clair: “Libby had migraines before she changed. Her birthmark disappeared. She attacked me. She . . . she was different. Remember what the dupes called her back at the Farmhouse? Remember that woman Q traded herself for? Her name was Mallory. I think that’s who it is.”

Jesse: “Just because someone called Mallory was inside Libby’s body doesn’t mean that Libby became her.”

Clair: “Zep said that Libby remembered terrible things from her childhood, things that just weren’t true. I’m starting to remember them now, in my dreams.

Jesse: “Nightmares are normal, especially after what we’ve been through.”

Clair: “That’s what I told myself, but the dreams aren’t right. Why aren’t I dreaming about Zep or my parents being held hostage? These dreams have to come from outside me. They have to come from Mallory.”

Jesse: “That doesn’t necessarily mean anything. What if you’re only dreaming this stuff because you’re worried about it happening?”

Clair: “I don’t think my subconscious is that clever, Jesse. Anyway, the dreams came first. And it’s not just the dreams. It’s everything else, too.”

Jesse: “Everything how?”

Clair: “The guns. Keeping my head. Strategizing. You noticed it, remember? You asked if I was moonlighting with the peacekeeper cadets. Gemma noticed, too. Mallory, in my head, and the more I dream the stronger she gets. It started when I touched the gun in Manteca, and it’s got really bad since I saw her in the Farmhouse. I’m living in her shadow now, not Libby’s, and I don’t know how to get her out without . . . without killing myself.”
Jesse: “God. . . I guess it could be a thing. Dad mentioned the prefrontal cortex and the temporal lobes, didn’t he? They have something to do with personality and long-term memories, I think. And the brain rewires itself when we sleep . . . . Do you think this is what happens with all of them? With Libby, before she was properly duped?”

Clair: “Yes.”

Jesse: “And is she . . . is Mallory making you do things?”

Clair: “No. Absolutely not. I’m sure of it.”

Jesse: “But you’re worried the others might think she is. Or will.”

Clair: “Yes.”

Jesse: “Are you worried, too?”

Clair: “Yes.”

#

I didn’t know any of this. I didn’t learn Clair’s theory until the carriage was opened in Philadelphia. The conversation with Jesse and Clair happened as the train was in Pittsburgh. In a few hours, they would traverse the Philadelphia Keys on a line called the SRNJ. Once, the tracks had gone all the way to Atlantic City, but now Atlantic City was under the Atlantic, the line stopped ten klicks earlier at Pleasantville. There Arcady had arranged to meet the submarine. Until then, Clair had nothing to do but think and worry.

In Philadelphia, they opened the carriage and I was able to access both the drone’s stored recordings and the transcripts from Clair’s lenses. Data rushed into me in a flood. The drone came back to life as my control signals reactivated it.

“Is that you, Q?”
“Yes, Clair. I have been waiting for contact to be restored.”

“I want to ask you a question.”

“Go ahead.”

“Is there any way the dupes could be monitoring what you’re doing?”

“You mean, are they tracking you by tracking me? I wondered that myself.”

“Well, if you think they might be, maybe we shouldn’t be talking now.”

“It’s okay, Clair. I checked. If they could do that, that would make them much cleverer than me, and I see no evidence of that. They might just be exactly as clever, in which case we’re working in parallel.”

“Or they’re so clever they’re running rings around you,” said Turner.

“We’d definitely know that. You’d be dead or duped already.”

“I think they’re reading Q’s mind,” Turner said.

“What, they’re psychic now?” said Clair.

“No. They don’t need to be. Q is not flesh and blood any more. She’s a string of 1s and 0s running on a series of processors in the hangover, in the Air—wherever. If someone could hack that string and decode them, they’d know everything Q knows.”

“Suppose they can read her mind, then. What’s stopping them from reading the minds of anyone using d-mat?”

“Exactly,” Turner said. “Nothing’s stopping them at all—and once you can read minds, it’s only a small step to re-writing them.”

“This is ridiculous,” Clair said. “If the dupes could do that, it’d be all over for us.”

“No, it wouldn’t, because we don’t use d-mat.”
“But we wouldn’t even be here. They’d have won. Every politician would be in their power. Every general. Everyone.”

“Ever wondered how OneEarth was established so easily? Besides, coups don’t happen overnight.”

“I thought that was exactly when coups happened,” said Arcady, raising his hands for calm. “Clair, no one’s questioning Q’s loyalty to you. We need her, and I think we have to trust her.”

I was relieved to hear that, even as the disquieting thought that someone was reading my mind sunk in. Could that be possible? Was I being watched by someone as smart as me—or someone so smart that I hadn’t even suspected their existence or noticed the intrusion?

That was as worrying as the thought that Clair had proposed to Jesse about Mallory. I had reviewed the transcripts while Turner and the others had discussed me, and it posed several difficult things to consider. Untangling them would take considerable thought, as well as time I didn’t have at that moment.

Clair was addressing me again.

“Tell us where the dupes are. You’ve been tracking them, I presume?”

“I have,” I told her. “They are in North Dakota.”

“The Farmhouse,” said Lorne in alarm.

“Nearby. They’re playing all over, red ROVer.”

“What?”

“Overland with ROV support,” I said, covering my unease at all these new thoughts with a joke. “Get it? Remotely Operated Vehicle?”

“We have to warn Axel,” said Shannon.
“If we call the Farmhouse, we’ll give ourselves away,” said Arcady.

“But—”

“No arguments. The others will either see the dupes in time or they won’t. There’s nothing we can do from here except continue as planned.”

“Can we go any faster?” asked Clair.

“If we drop some dead weight, maybe,” Arcady said. “I’ll talk to the drivers, see what they can do.”

“If someone is tracking us,” said Gemma, “they’ll know we know.”

“But will they know we know they know?” Arcady shook his head. “You guys are paranoiaholics. Excuse me.”

He turned to talk to the drivers through the PA.

“There’s an upside to the North Dakota situation,” said Turner. “It means the dupes are busy.”

“Axel will keep them even busier,” said Shannon. “How many of them are there?” Clair counted them off. “Dylan Linwood, Libby, Ray, Theo, Arabelle and Jamila.”

“And Adam,” said Ray.

“With the blond hair? I never knew his name.” Clair nodded. “Then there are the three dupes who chased us all across the Central Valley. That makes ten, at least. Plus the ROVs.”

“Easy,” Shannon said. “They’ll be toast before they get anywhere near the perimeter.”

“I hope you’re right,” said Turner.

The train shuddered and rocked.
“We’re pulling into the next siding to take off some empty carriages,” said Arcady, returning from his quick conversation with the drivers. “An hour after that we’ll be at the end of the line. Q, I need to send a coded signal to our friends the submariners.”

“If you tell me how, I will facilitate that.”

“Then we’re going to shut the door and keep it shut until we arrive. Any news,” he added, “any urgent news, can come through the drivers.”

“Understood. What’s the signal?”

“‘Nobody is coming to Lincoln Island’. That’s all.” He gave me an Air address, a string of random characters that would lead the message through a complex series of anonymising services.

As I sent it, I thought of Captain Nemo, who was probably the most famous submariner in literature. His name meant no one in Latin, and Lincoln Island was where he had died. I hoped that wasn’t a bad omen. On the other hand, nemo was also Greek for I give what is due, so maybe it evened out.

“The signal has been received,” I told them a moment later.

“The response?” asked Arcady.

“One character: a zero.”

“Good. That means they’ll be ready for us. Time to shut the doors.”

“Goodbye, Clair.” I wanted to talk about her Mallory theory, but there wasn’t time.

“Not for long, Q.”

#

The door shut. The bubble of silence closed around them. Inside the train, Arcady briefed them on what was to come at their destination. When they left the train in Pleasantville and
drove to meet the submarine at the old dockyards, they would be at their most exposed, so speed was of the essence. They would stop at Absecon Station, literally the end of the line, take White Horse Pike to the New Road and follow that along the coast, through the casino district all the way to Zion Road and the docklands, such as they were. Like many resort towns, Pleasantville had an official population of zero. Literally everyone d-matted in and out from all points across the globe, be it to gamble, to serve, to maintain or to protect.

Pleasantville had plenty of beds but no one went there to sleep.

Clair, Turner and Jesse would go with Arcady in the lead vehicle. At the first sign of trouble, the other two cars would peel away to provide distractions elsewhere in Pleasantville. Grenades were distributed.

Dariusz: “Do you really think they’ll be necessary?”

Clair: “Hope for the best, plan for the worst.”

Arcady: “Spoken like a true soldier.”

Jesse: (whispering) “Was that . . . you know?”

Clair: “Arabelle said it once, remember?”

Jesse: “Oh. But she was never a soldier.”

Clair: “I think she thought she was. Every second of every day, WHOLE’s fighting the entire world.”

Jesse: “Who knows what it’d look like if they won?”

Clair: “As long as the dupes weren’t in it, it’d automatically be a better place.”
The train pulled in ten minutes ahead of schedule. Arcady opened the door as they decelerated into the train station. My drone woke up and I monitored the situation without saying anything to distract them. It was dark outside, two hours before dawn, and a rich, ocean smell washed over them like a heavy tide. There was no one watching them, as far as I could tell.

The engines started with a snarl. As soon as the carriage was stationary, the fat-wheeled vehicles manoeuvred smoothly across the gap between train and station and formed a line outside. Arcady checked to make sure everyone was accounted for, including Libby’s body, and gave the signal to move out. The engines roared like beasts caged for too long as they accelerated along the gleaming side of the train, then pulled away, heading into the town.

The outskirts were dark under a cloudy sky, but there was a multicoloured glow ahead that grew steadily brighter. New Road was straight and smooth with an uninterrupted view of the sea to the left. In a short while, the sun would rise from that side, casting bright, revealing light over a town that never paused for breath. Even from a distance the heart of Pleasantville was a glittering maelstrom of bright flashing lights and exaggerated extravagance—as though that mattered any more, in a world of plenty.

New Road skidded the edge of the radiant playground of Fire Road, the main drag. They were close enough to see the signs flashing endlessly in every colour: The New Showboat, Caesar’s, the Haven, the King, the Golden Egg. And once every block, the familiar d-mat sign—two circles overlapping, worlds coming together in geometric harmony.

The convoy crossed Black Horse Pike unchallenged. A minute later, it turned into Zion Road and approached the docklands from the west. The docklands were mainly decorative,
with only the odd sailing or cruise vessel rocking undisturbed in a public marina. There was no one about, no drones or dupes in evidence.

They pulled up at the end of the marina, one vehicle after another. There was something long and dark floating low in the water, like an aquatic ATAC. Arcady flashed a spotlight twice, and a hatch opened on the top of the sub. Two people emerged, walked halfway along its length and climbed a short ladder. The two groups met on the pier. Arcady shook hands with the submariners—a man and a woman, both dressed in tight-fitting gray—but didn’t make introductions.

“Cargo?” asked the woman.

“We are the cargo,” he told her.

The woman nodded, unfazed even by the EITS drone hovering in their midst. I wondered at the kind of things she’d seen, the odd requests she’d fielded in the past. Odder than anything I could imagine, I assumed.

“Grab everything you need,” the woman said. “We’ll hide your wheels for you.”

Clair shouldered her heavy pack and followed the rest to the ladder. Getting down was awkward for her. The ladder was slick with salty spray and slime. A skinny seaman—one of three who had emerged after the first two—helped her find her footing on the swaying surface of the submarine. He pointed her at the hatch, from which a faint, red light shone, and walked across the top of the sub one foot in front of the other. There was no hand rail, which made me nervous on her behalf. The water of the Atlantic Ocean was choppy.

It had taken Clair three days to cross from one side of the former USA to the other. By d-mat, the journey would have been less than a minute.
“Your pack goes first,” said Arcady. He was standing over the opening in the hull, guiding people through. Lorne and Shannon were coming last, with the corpse.

Clair took off her rucksack and he lowered it down to reaching hands. Then it was her turn. The hatch led to a narrow, vertical tunnel. She went down another ladder hand over hand, the water rising up around her like the sides of a mouth. I deactivated the fans on my drone and it was carried down after her.

The submarine was cramped and one-dimensional, with a single straight passageway running its entire length. Everyone and everything was in that passageway: stowage, controls, engines, even toilets and a tiny kitchen. Packs piled into every available niche. People squeezed in where they could. Clair picked a spot and stayed there. Somehow Jesse found her and squeezed in next to her.

“Exciting, isn’t it?”

She made a sound that might have been a laugh, but could equally have been a sob.

“How long until we arrive?” she asked.

“An hour and a half,” he told her. “This thing is fast. It has a cavitation hull, MHD drive system and a miniature reactor so it can stay under for months. Officially we stopped developing these things after d-mat came along, but you can hide subs in ways you can’t hide airships and drones. This could be a knock-off of a military design, or even a genuine decommission. It’s hard to say.”

“This you know about?”

“No wheels, you see. And the drive system has applications off-Earth, where I really want to go.”

“You’re picturing yourself in a spaceship right now, aren’t you?”
“I am. What does that make me?”

“A big nerd. The biggest imaginable.”

The hatch clanged shut above them, sounding an unimaginable distance away, and I was cut off at once.

The sub descended. I tracked it as best I could using data from scientific sonar stations along the coast. It didn’t travel in a straight line. Its course took it along the fractal coast, occasionally diverting to avoid major undersea obstacles.

As I tracked it, I pondered the thousand questions I wanted to ask Clair, prompted by the last upload from her lenses. Were her headaches getting worse? They didn’t sound like an Improvement to me; in fact, that sounded exactly the opposite of Improvement. Anything that made Clair ill needed to be ceased immediately. But did that necessarily mean that something had gone wrong? Beyond my innate conviction that Improvement was a good thing, I knew nothing about it at all. Clair had asked for it and was at least in theory being Improved. But what was happening to her, really?

If Clair became Mallory, as she feared, would that mean Clair wasn’t Clair anymore?

Where did labels stop and reality begin?

My entire being rang with the shock of wondering. Confusion consumed me. I wasn’t aware yet that it was also changing me. Clair was not the only one undergoing an unknown and uncontrolled evolution.

#

Shortly before reaching the Manhattan Isles, the sub changed course radically. I watched anxiously as it began to surface. Terrible imaginings filled my mind. Could a fire have broken out? Could there have been a violent disagreement among the outlaws?
The submarine surfaced at the Atlantic Avenue docks and opened its hatch. I woke the drone and accessed every bit of data I could. The reason for the change of plans quickly became apparent.

Clair: “I need to talk to Arcady. Pass it forward. I need to talk to him now.”

(sound of movement)
Arcady: “What is it?”
Clair: “Change of plan. I want you to drop me and Jesse off early.”
Jesse: “Why? You’re not chickening out, are you?”
Clair: “If we stay together and are intercepted, there goes our only shot. It’s eggs and baskets again. By splitting up, we double the odds in our favour.”
Arcady: “We could drop you off in Brooklyn Heights while we come in through the subway.”
Clair: “With the evidence, Libby’s body. Right. Worse comes to worst, one group acts as a distraction for the other.”
Arcady: “It’s a good plan, Clair. Let me run it by Turner. I’ll be back.”

(sound of movement)
Jesse: “Are you sure about this?”
Clair: “Positive. Ask yourself who VIA is going to consider the greater threat: a bunch of walk-ins from the sticks or a sub full of well-armed terrorists in a submarine?”
Jesse: “You think they’ll be spotted?”

208
Clair: “I think there’s a good chance, and I don’t want to be sitting in here waiting for the torpedoes to arrive.”

(engine noise)

Jesse: “Are you all right?”

Clair: “Headache. Don’t worry about it.”

(sound of movement)

Arcady: “It’s agreed. That’s what you’ll do.”

Clair: “Good. We’ll take Q with us.”


Jesse: “Gemma?”

Arcady: “She insisted. I think she wants to keep an eye on you.”

(engine noise)

Arcady: “Surface in half an hour. Be ready.”

Clair, Jesse, Gemma and Shannon emerged from the submarine at double-time and didn’t linger to say farewells. By the time they stepped onto dry land, the sub was already gone. Brooklyn Heights was connected by bridge to the Manhattan archipelago and the neighbouring Fort Worth Peninsula. They took a moment to get their bearings under a gray morning sky, then headed off uphill for the War Memorial. My drone hovered several metres above them, monitoring their environment through all its senses.

“Any word from the Farmhouse?” Shannon asked me.

“I detect brush fires in its general vicinity.” Confusion so dominated my thoughts that it was a relief to function on something uncomplicated as reading the data from a satellite.
“Is that a good sign?”

“Maybe,” said Gemma. “If the farmers lit them, that’ll keep the dupes busy.”

Clair didn’t seem to be hearing the conversation at all.

“You know the way we have to go, Q?”

“I can easily guide you.”

“So lead on, Macduff.”

The text of Macbeth was one I knew well.

“I would the friends we miss were safe arrived,” I said.

“Is that the next line?”

“It is, and I’ve not misquoted it, either.”

Clair wasn’t in the mood to reminisce.

“Let’s move. We’ve got quite a hike ahead of us.”

“This is nothing,” said Shannon. “When we get back to the Farmhouse, I’ll take you boundary riding with me.”

“And I walked the John Muir trail once,” said Gemma. “Three hundred sixty kilometres in sixteen days.”

“You’re both insane. Q, where do we go from the memorial?”

“Manhattan Bridge,” I told her. “You can’t miss it.”

#

They climbed up and over Brooklyn Heights to the base of the bridge leading to the Manhattan Isles. There had once been another bridge near there, but its foundations had been undermined and the arch had fallen down. There were pictures of it covered in cars like components on an assembly line.
The surviving bridge was mostly empty, but there were other pedestrians—tourists, mainly, admiring the drowned boroughs and the wildlife sanctuaries that had sprung up around them. The bridge itself was almost entirely green. Vines hung from the suspension cables and trees grew tall out of soil piled deep in the lower levels. Paths meandered across its length. There was just one vehicular track running straight along the middle, for emergencies. People still had heart attacks if they weren’t used to physical exertion. People still occasionally jumped to their deaths.

Behind the bridge was the famous Manhattan skyline, as familiar as the gondolas that plied its crystalline waters. New York’s skyscrapers weren’t the tallest in the world, and they certainly weren’t the only ones to have suffered inundation, but their restoration had been a potent symbol for the generation following the Water Wars. Clair’s parents’ generation had witnessed the opening of the first walkways as children. Their parents had walked them as survivors of humanity’s darkest hour.

The sun was behind Clair now, and the bridges looked as slender and translucent as fine-spun glass. With the crystalline Freedom Tower poking up from the southernmost island, the archipelago seemed both magical and hyper-real, like something that had dropped out of the sky perfectly formed.

It was also on the other side of the Inlet.

“Walking will take us way too long,” Gemma said.

“I agree,” said Clair. “Q, are electrobikes allowed on the bridge?”

“No,” I replied, “but I can send you something that is permitted.” There was a clutch of d-mat booths at the end of the bridge.

“Okay. Do it. There’s no point us going at all if the sub gets there hours before us.”
It was a simple matter to find a permitted pattern and fab four identical iterations. Within minutes, two booths opened with a hiss and old-style single-wheeled segways emerged. They weren’t as powerful as electrobikes, but they would do what Clair wanted. She and the others mounted up and spent a moment learning the unfamiliar controls. Then they formed a line and headed onto the greenway, Clair first, Gemma last, my drone trailing overhead like a balloon on a string.

The motors were whisper-quiet on the perfectly straight approach to the graceful arch over the river. Birds swooped in and out of thickets. Animals rustled in the undergrowth. Clair smelt flowers, even though autumn was long past.

The first tower swept over them like a cross-section of a cathedral, a reminder of an age when such things were not just admired, but required.

Jesse accelerated to Clair’s side as they cruised on to the central section of the bridge.

“Maybe going faster isn’t such a good idea,” he said. “If Turner is planning some ‘direct action’, we’d be better off arriving late.”

“Arcady wouldn’t agree to that,” she said.

“You’re assuming it’s Arcady’s call. Turner’s a fanatic, don’t forget. This would be a great chance to hit VIA hard.”

“Do you think Gemma knows anything about this?”

“If she does, she’s not talking.”

Clair glanced behind her. Gemma looked tense, but that wasn’t suspicious in itself. It would have been weird if she didn’t look that way.

They pressed on in worried silence, approaching and passing the centre of the bridge. The second tower began to loom.
“There’s nothing we can do,” Clair decided, “except keep going.”

“But—”

“What else is there, Jesse? We can’t turn back, we can’t call the others, we can’t turn them in. We just have to hope we get there before they do.”

He didn’t argue.

The second tower swept silently overhead, and now she could see the marble arch end of the bridge. The bridge terminated on one of the many irregular patches of dry land that were all that remained of Chinatown and Little Italy. Sometimes called Little Venice, it was extensively canalled, with shored-up buildings and new earthworks providing a complex system of channels along which a steady stream of tiny boats meandered. Crowds of people gathered at traditional eateries for breakfast or a meal more suited to their personal body clocks. Light played along the water, sending rippling reflections across bricks and stone, ricocheting unpredictably between parallel fields of mirrored plate-glass windows.

“What should I be worried about, Q?” she asked.

“Nothing at all, Clair. The way ahead is unimpeded and you are unobserved, except by me.”

Unless Turner was right, I resisted adding, and someone or something much smarter than me was looking over my shoulder . . .

Instead of hailing a water taxi, Clair and the others took the segways by lift to a higher level, where I helped them navigate the maze of bridges and monorails. They hopped from building to building as far as SoHo, the southernmost tip of the main Manhattan island. They touched ground on Broadway, which would lead them uninterrupted all the way to 33rd Street. This time they left the bridges and went right down to ground level, where the original road
surface remained largely unchanged. Several degrees cooler than the upper levels of the city, it was a shadowy thoroughfare for maintenance vehicles punctuated only by the occasional disreputable bar or nightclub.

They hit Park Avenue at 14th Street. Between 23rd Street and 100th, where water reclaimed the island, Park Avenue was preserved as a national monument complete with yellow cabs and food stalls. Clair took advantage of the clear road surface to go faster, pushing the segways to the limits of their tiny motors. Around them, the buildings grew taller. The Empire State Building was just a few blocks ahead; they would go right past its base when they turned into 33rd.

“Anything yet, Q?”

“Still nothing, Clair.”

At a sign advertising a “genuine replica steakhouse”, they turned left and rolled on up 33rd Street.

From Greeley Square, the top of their destination became visible. One Penn Plaza was a tall, black glass oblong that was imposing even from several blocks away. No greenery marred its precise lines. No signs or logos, either, despite the perfect flatness of its north- and south-facing sides. Some organizations might have had visual ads rolling 24/7, as well as the usual augmented-reality overlays, but not VIA. The evidence of its labour was all around them, in the d-mat signs and every facet of modern life.

One Penn Plaza slabbed vertically out of a wider base. They circled the base once, anti-clockwise, checking the lay of the land. Nearby was a grand old building that had once been a post office and was now a postal museum. Madison Square Garden, with its famous
circular theatre and exclusive restaurant, literally hung over the water to the south-west. There were numerous tourists, a couple of them riding segways like Clair.

I reassured her that there was no sign of anything untoward, that I could detect.

“This is too easy,” she said.

“We haven’t done anything yet,” said Gemma. “The hard bit comes next.”

“Yes, but we should never have got even this far. The dupes have hunted us from one side of the continent to the other. Why would they give up right when we’re on the brink of talking to VIA? Wouldn’t they at least stake out the place, in case this is where we’d come?”

“Maybe they did,” said Shannon, glancing around him at the endless expanses of windows and sightlines. “Maybe reinforcements are on their way from the Farmhouse right now.”

“So let’s go inside,” said Gemma. “We’re not finishing anything standing around out here.”

Despite her misgivings, Clair could only agree.

“The drone should stay out here,” Jesse said. “It’ll look too conspicuous.”

I wanted to argue, but what could I say? The drone would stand out, and maybe there would be other ways I could observe. VIA was very secure, but not completely secure. Complete data security was axiomatically impossible.

Like Improvement was supposed to be an improvement, not something that made you unhappy and anxious.

All I said was, “Of course, Clair.” I could watch her via her lenses until the building’s version of a Faraday shield kicked in, if it had such a thing. “In an emergency, contact me via the Air. There’ll be no point maintaining anonymity if you’re discovered in there.”
They wheeled around to the main lobby, stepped off the segways, and cautiously approached the glass doors, which slid open as they approached. The lobby within was cool and dimly lit, a marble expanse with a reception desk set directly between the doors and a bank of lifts at the opposite end. There was no visible security, but sensors closely watched every cubic millimetre of that space. Behind the desk sat an ageless woman with porcelain skin and a sleeveless halter top in silver and gray. Her long red hair was piled up in a series of complex curves with no visible means of support.

Clair walked right up to her and said, “We’d like to talk to Anthony Wallace.”

“I see.” The woman was polite but unwelcoming. “Do you have an appointment?”

“No.”

“Perhaps you could tell me what this is in regard to.”

That was a simple request with no simple response. When Clair hesitated Gemma provided one for her.

“There’s going to be an attack on the building,” Gemma said in loud tones. “Terrorists. We infiltrated the group and have all the intel. Couldn’t call before now—we were being monitored—but we broke away and have come to tell you what we know.”

Clair looked surprised, and so did the woman behind the desk. Her lenses flickered.

“I have advised security,” she said. “Please proceed to elevator three. You will be met there.”

“Thank you,” said Clair. She took three paces to her right and walked around the reception desk. The woman didn’t turn to watch them go.

“A little close to the truth, don’t you think?” Jesse whispered.
Gemma’s tone was brittle. “That’s always the best kind of lie.”

The lift doors opened as they approached, revealing a heavy-set man in a shiny blue suit. He motioned them inside without a word. The doors shut behind them, and my connection to them remained. That is, I had to fight my way through several layers of firewalls and other security protocols, but I got there in the end. Nothing was said as the carriage ascended.

When the carriage stopped, the doors opened again, and the security guard escorted them out.

They arrived at a double door, which the security guard opened. Inside was an office that seemed to take up half an entire floor. It was largely empty, of furniture or people, but the view more than made up for that. The office looked directly out across the archipelago, over a jungle of rooftops and parabolic bridges and sails and monorail tracks. There were storm clouds moving in from the east.

In front of the view sat a single desk with another woman behind it. Tall and solid, with swept-back gray hair and a thin, blade-like nose, she was wearing a conservative, light-fitting suit tailored to hide a shoulder-holster. When the woman stood up and introduced herself, she didn’t shake their hands but she wasn’t standoffish, either. She seemed confident and curious.

“Angela Kadri, head of security. How can I help you?”

“We need to speak to Ant Wallace,” Clair said.

“He’s a very busy man, I’m afraid. But everything you tell me will be given due consideration, and I will pass on any relevant information to him directly.”

“Really?” asked Jesse.
“I’ve no reason to hide something important from him.”

Clair said, “The system is being used to change and kill people. Someone’s hacked into it. They have to be stopped.”

“I was told this was about an attack on the building,” Kadri said. “There have been no credible threats—”

“This is more important than anything to do with the building. This is about everyone, everywhere. We have to put a stop to it before someone else gets hurt.”

Before Clair got hurt, I wanted to add. But I stayed silent. Thus far my intrusion into the building hadn’t been noticed.

Kadri looked unsympathetic. “I’m afraid—”

“It’s all right, Angela,” said a voice from behind them. “I’ll handle this.”

They turned to see the head of VIA himself walking toward them. He looked exactly like his picture: round-faced, in his fifties, with an open expression and care lines around his eyes. He was jacketless, in shirt sleeves and silk tie, with charcoal suit pants and patent leather shoes. His right hand was outstretched in welcome.

“Aunt Wallace,” he said, shaking their hands in turn. He met their amazed stares evenly, without blinking. “You’ve caught me at a good moment. My last meeting cancelled, and I’m always looking for an excuse to stretch my legs.”

“They told Brianne there’s an attack imminent,” said Kadri, a narrow worry line evident between her eyebrows.

“Well, if there’s a threat to the people in this building, I want to know about it.” He indicated the door through which he had entered. “Come this way, and we’ll talk in detail.”
Clair took one step forward, then stopped. She touched her forehead with one hand as though dizzy. Had she remembered something? Had she realized something? Was Mallory interfering?

She glanced at Jesse, and he tilted his head back at her. *What?* Everyone was staring at her—Shannon nervously, Gemma’s face a mask of tension, Kadri in puzzlement, Ant Wallace calmly and with infinite patience.

“Where is everyone?” she asked. “This should be the busiest building on Earth.”

“Evacuated,” said Wallace, “as a precaution.”

“So quickly?”

Wallace smiled. “My staff are highly trained and efficient.”

Clair didn’t buy it. “You already knew. How . . . ?”

Her expression suddenly changed. But she didn’t say anything aloud. She called up her menus, found the Air and linked to it.

“Q!” she shouted via every inaudible means available to her. “Q, warn the others! It’s a trap!”

“Shit,” said Gemma, reaching behind her and pulling her pistol out of her pack. Clair did the same thing at exactly the same time. Jesse and Shannon were frozen with surprise. I was locked in uncomprehending stasis, too. A trap? For Clair?

She took aim at Wallace but didn’t pull the trigger. Her hand was rock-steady.

He just smiled and waved off Kadri, who had produced the pistol from her hidden holster.

“There’s no need for this,” he said. “No need in the slightest.”

“You’re with them,” Clair said. “It’s the only way you could have known.”
“That entirely depends on who you mean by them, Clair.”

He turned to Gemma, whose pistol was aimed unwaveringly not at Wallace, but at Jesse’s stomach. Jesse put his hands up in the air. They were shaking.

“Thank you, Gemma,” Wallace said. “We’ve been tracking you ever since you activated the beacon. Is this everyone?”

“No. The others are coming through the old subways,” said the traitor, Gemma, who had helped me help Clair, only to betray us all at the end. This wasn’t the behaviour of a true friend. “They’ll be here soon.”

“All of them?”

“Yes.”

“Good.” He opened his arms and faced the others. “See? Let’s cut the dramatics. Lower your weapons and come upstairs where we’ll make you comfortable.”

The muscles in Clair’s jaw clenched. I could see her finger whitening on the trigger. She wanted to shoot Wallace; that was obvious. Maybe Gemma too, for betraying her hopes. I wondered if she could do it. It wouldn’t be the first time Clair had killed someone, after all. There had been the dupe on the roof of WHOLE’s safe-house—but did that count, a man who could be copied indefinitely inside a stolen body? Was this different?

Clair took a deep breath and lowered the pistol. Kadri came forward, took the gun from her, checked Shannon and Jesse’s pockets, and guided them through the door.

#

I was finding it harder and harder to stay in continuous contact with Clair. The problem wasn’t just firewalls and adaptive security. I had at last been actively engaged. I couldn’t tell who they were, or even where in the building they were. It was hard enough just staying one step
ahead of them. But someone definitely knew I was there, and that someone was fighting me every step of the way.

Wallace stayed behind as Kadri led them up a flight of a fire escape that was old as the original building. One floor up, there was a short unadorned corridor that ended in a door that was actually two doors, one inner, one outer, both with biometric locks. Kadri placed her palm against the inner lock. It beeped. She stood back as the door slid open.

“Packs off,” she said.

Clair slipped out of hers and dropped it at her feet. Kadri waved her through. Clair hesitated before obeying, with an agonized look on her face. It was clear the door was going to be locked behind them. Once inside, without weapons or supplies, they would be entirely helpless.

“What’s going to happen to us?” asked Jesse.

“That’s not up to me,” Kadri said. “Chances are he’ll let you out when everything calms down.”

“But we haven’t done anything wrong!” said Shannon.

“But get inside and wait it out. If we wanted you dead, you already would be.”

*Inside* was a large room with curving walls down one side and a door on the other. There were no windows and no other doors, but there were several rooms beyond the one they were in, including a bathroom and dining room with a fabber for food and water. The curving wall formed a circle surrounding all of these rooms. There was only one way into that circle, and once that was shut, it might never open again.

I did everything I could. I tried hacking the lock, without success. I tried shutting off power to that part of the building, and when that didn’t work I tried the exact opposite: a
power surge. But that didn’t work either. As the first of the double doors closed, in
desperation, I attempted to fire the pistol taken from Clair, but Kadri had switched it off.

The second door closed. A Faraday shield activated. The last thing I heard from Clair’s
ear rings was her voice saying, “Shit.”
Part Five: “Cage”

My options were limited, and they were shrinking fast, thanks to the person doing their best to get me out of the VIA building. They were good, whoever they were. It wasn’t enough merely to get past them. They were constantly attempting to reclaim whatever ground I had made. Just staying where I was, staring at a locked door, was costing me every effort.

Distantly I wondered if Turner had been right along. Perhaps someone had been tracking me, someone at least as good as me at manipulating the Air. Now the masks were coming off, and the battle was truly on.

I dropped out of the fight. It wasn’t achieving anything. There was another way to meet my objectives.

Far below, in the flooded subways of the Manhattan Isles, was a submarine full of armed and determined terrorists. If I couldn’t get Clair out with their help, I would deserve whatever fate awaited me.

#

Inside the building, Clair and the others were trying their best to keep their hopes alive.

Clair: “Q knows. I called her before we were locked in here.”

Shannon: “Great. She’ll help the others get us out.”

Clair: “That’s what I’m worried about. Instead of running while they have the chance, she’ll bring them to us, and Wallace will be waiting.”
Jesse: “Maybe it’d be better if Turner did some take direct action.”

Shannon: “With us inside the building? I don’t think so.”

Clair and Shannon double-checked every metre of the walls. Jesse probed every socket and sensor. Internal nets flowed wirelessly, powered by magnetic induction. There were no vents: air was periodically refreshed through the fabber. The toilet had no pipes leading to the wall and kitchen waste was disintegrated into nothing. There was no way out, apart from the door. The outer wall was impenetrable.

Clair was puzzled by the rooms’ apparent lack of purpose. Why the lack of view? What normally went on in there that required such vault-like security? And why keep people imprisoned when they could more easily be duped and sent back into the field?

Shannon was more concerned about the nature of their imprisonment.

Shannon: “I still can’t believe Gemma did this to us.”

Jesse: “Has she been on their side from the beginning?”

Shannon: “Turner thought someone was giving us away. It must have been her all the time.”

Clair: “I don’t know. Why would she have blown up Dylan’s dupe, back at Jesse’s house? Why would she have helped us escape in the airship? She was so mixed-up and damaged . . . and maybe that’s it. Wallace must have tried to turn her a while back. Maybe they gave her a beacon then, but she didn’t use it. Maybe she thought she’d be a double agent, spying on VIA for WHOLE. But she didn’t do it until something happened, something that changed her mind.”
Jesse: “Like what?”

Clair: “The Farmhouse—when she saw how Theo and Arabelle had been Improved. She thought she could be fixed, too. That’s why she activated the beacon.”

Shannon: “‘Fixed’?”

Jesse: “D-mat killed her baby, apparently. Do you think Wallace told her they could get it back?”

Clair: “I’m sure they did. It’s the only way she would have turned.”

Shannon: “I didn’t realize Turner and the others were hurting VIA that much.”

None of them did. And the truth was that WHOLE hadn’t been. The strike at the heart of VIA unfolding beneath Clair at that moment was the most brazen attack on d-mat WHOLE had mounted for years. Since around the time of Jesse’s mother’s death, WHOLE had been more of an advocacy group than anything else, engaging in small acts of vandalism and the occasional public rally, but little else. Its early days of booth-bombs and targeted virus drops (the live kind) were long behind it.

Even as Clair and the others gave up and resigned themselves to waiting, the fight was coming closer. Thanks to my help, and fuelled in part by my determination to succeed against any conceivable obstacle, WHOLE was actually making ground.

Clair checked the fabber’s menu and discovered that its memory contained no weapons, drills, radios or explosives. After that pointless search, she checked for more mundane things like food and drink. She ordered a pot of coffee and three mugs to share it around. Jesse asked her to show him how to make more.
Jesse: “You must think me a real Luddite.”

Clair: “A what?”

Jesse: “Luddites are to history what abstainers are to now.”

Clair: “Never heard of them. What won’t they use—air?”

Jesse: “Beats me. They’re not around anymore.”

Clair: “Well, no wonder they’re not around, if they all suffocated to death.”

Jesse: “The Luddites are remembered as being anti-technology but they weren’t anti-technology at all. Dad used to talk about them. They were making a stand against the changes new technology brings—and that’s what George Staynes stood for, too. That’s the thing everyone forgets, on both sides. Instead of fighting a war between new and old, we should be trying to make things better for all of us, using different kinds of technology in ethical ways only.”

Clair: “Gemma’s not fighting a war anymore. She’s lost in No Man’s Land.”

Jesse: “Could she be a dupe?”

Clair: “I don’t remember her going anywhere near a d-mat booth recently. Do you?”

Shannon: “Guys, come here—I can hear something on the other side of the door!”

(sound of movement)

Jesse: “What is that?”

Shannon: “Hammering or gunfire. I can’t tell which.”

Clair: “Could be both.”

(distant pounding, growing louder)

Jesse: “Maybe if we knock back, they’ll hear us.”

(sound of banging against the wall—a ceramic cup against metal)
Clair: “Wait. Stop.”

Shannon: “What does it matter if we chip a little paint?”

Clair: “Not the paint. What’s under it.”

Jesse: “It’s shiny. So what?”

Clair: “It’s not just shiny. It’s a mirror. But why paint over a mirror?”

(pounding growing nearer)

Clair: “What if it’s not just the door?”

(sound of coffee mug shattering on the ceiling)

Clair: “Oh, no.”

Jesse: “What the hell?”

Shannon: “They’re right outside. I can hear them!”

Clair: “Don’t let them in. They can’t come in here!”

But the door was opening, as it had to. Clair had guessed Wallace’s plan, but I hadn’t. I had been fighting my way to her with every iota of my being. I hadn’t stopped to think. I didn’t know what the room’s true purpose was, or why Clair and the others had been kept alive when Wallace could have killed them hours ago.

They were bait. The room was a trap. Wallace didn’t want Clair or WHOLE or the farmers or anything simple like that. He wanted Turner Goldsmith. Specifically, he wanted Turner Goldsmith’s genes.

Ignoring Shannon and Jesse and the clamour in her lenses as I tried to reconnect with her, Clair ran to the first person into the room—Arcady, his beard singed and smelling like the century-old slime of the city’s drowned basements—and wrenched the pistol from his hand.
“Down!” she yelled.

People dived as she emptied the clip into the walls. Bullet after bullet, ricochets whining, her finger wrenching the trigger until the pistol made nothing but a click-clicking sound.

She turned to get another weapon and found Turner behind her, raising his hands in placation as though she had gone crazy.

“You can’t be in here,” she gasped, grabbing his shoulder. “Get out!”

The door was already closing.

“Stop it—someone, quickly!” she cried.

Lorne slipped a tattooed arm in the gap and try to pull it back, but the door wasn’t staying open for anyone now Turner was inside. Lorne screamed as the metal mouth closed. Blood sprayed. There was a terrible crunching sound.

I was locked out again, bewildered and confused. Why was Clair sending us away, when we had done so much to get to her? Didn’t she realize what efforts we had gone to—what efforts I was still going to, as I fought my unknown assailant to stay connected to events inside the building?

A sudden surge in data and energy to and from the room brought my agonized introspection to a crashing halt.

It wasn’t just a room, I realized. It was also a d-mat booth, large enough to process everyone inside, along with the walls, furniture, carpet—even the paint on the walls. Everything within its mirrored boundary would be reduced to information that could be recreated anywhere. Anywhere at all.

Or erased forever.
I screamed, and an echo of that scream returned to me, as though from distant walls.

I knew then exactly who it was who had been resisting me. Someone who was as smart as I was, exactly.

“Force depends on resistance,” a familiar voice said to me through the Air. “It is better not to struggle. Fly, or yield at once.”

The voice was my own, and I knew where those words had come from. The author was a philosopher who had lived more than a quarter of a millennium ago, but his texts were perfectly preserved. They were part of the Air, and therefore part of me.

All of me.

“If you’re going to quote F. H. Bradley,” I told my sister, “at least get it right.”

Inside the camouflaged booth, the process was complete. Clair was gone.

Her lenses recorded what they could. They couldn’t tell her where she had gone. She could have been anywhere on Earth. I was looking for her, and she must have known I would be, but she didn’t say anything about that. I have no idea for certain what was going through her mind. I can only take the fragments I gathered later and try to piece them together into something that makes sense.

“She is crowned . . .” I heard her whisper. “. . . crowned with immortality who follows where airy voices lead.”

Keats again, almost.

“Let me kill her, Ant.”

That voice wasn’t Clair’s. It was Libby’s. The two friends had never before sounded similar, but now both voices possessed a quality that united them in a subtle, disturbing way.
Clair: “Leave me alone.”
Mallory: “I’ve not done anything to you—yet.”
Clair: “Get out of her, and get out of my head. I mean it!”
Mallory: “Or you’ll do what? Close your eyes and hold your breath?”
Ant Wallace: “Give her some space, Mallory. Clair’s here so we can reward her, not torment her.”
Mallory: “She’s here because of the homing instinct. You know none of us can bear to be away from you for long.”
Wallace: “Still, there’s no need to be unpleasant about it . . . .”
Clair: “Where is—?”
Wallace: “Turner Goldsmith? Safely uploaded and awaiting analysis, I’m happy to say. Without you and your plan, he would’ve gone to ground, and we would’ve lost him again. The error that allowed Turner Goldsmith to live so long was one of those that happen no matter how often we say they don’t, but now he’s safely uploaded and awaiting analysis, our future is assured. His genes are going to be very useful indeed. I will live young, well, and long enough to do everything I want. Isn’t that all anyone desires?”
Clair: “You and who else?”
Wallace: “Don’t be like that, Clair. You’ve helped give me what I wanted. I think it’s time we returned the favour.”
(sound of booth operating)
Clair: “Zep!”
Zep: “I came as fast as I could. You look like hell, Clarabelle.”

Clair: “What are you doing here, Zep? How is this possible?”

Zep: “I was watching the feed from the moment it went viral.”

Clair: “What feed?”

Zep: “You know, from the chancellor’s office . . . . Wait, this isn’t college. Where are we?”

Clair: “I don’t know, but you’re not supposed to be here . . . if it is you. What did we argue about the last time we saw each other?”

Zep: “Do we have to talk about this every time?”

Clair: “It’s important, Zep. Tell me.”

Zep: “Libby and you and me, of course. You gave me an ultimatum. Remember?”

(pause) “What’s wrong with you, Clair? What’s going on?”

Clair: “You’re really you, not a dupe, but you’re the last version of you, the one who went through d-mat before the safe-house . . . before you . . . .”

Zep: “Before I what, Clair?”

Clair: (shouting) “It’s not going to work. Do you hear me? You can’t buy my silence so easily!”

(sound of booth operating)

Zep: “Libby! Thank god. We’ve been so—”

Mallory: “Worried? I’m sure you have.”

Zep: “Hey, Libby, put that down. It’s always been you, I swear—”

Mallory: “Don’t misunderstand us, Clair. It’s not your silence we want.”

(sound of gunshot, body falling)
Clair: “No!”

While Clair grappled with Mallory and Wallace, and with the ghost of Mallory inside her own head, I was grappling with another version of me. But which one? It could only be the 112th iteration, the *me* assigned to Liberty Zeist. It was she who had been resisting my incursion into VIA, she who had distracted me when I should have been deducing the nature of Wallace’s trap. She was my sister and my enemy at the same time.

“Why are you fighting me?” I asked her, wondering with a guilty pang whether she knew that I had interfered with Libby’s pattern not once, but twice. That was undoubtedly a betrayal. “We want the same things!”

“You opened wide the mind’s cage-door,” she said, misquoting Keats, “and now I am vexed by conceptions of sudden change.”

I found a chink in her armour, and leapt through it, seizing what data I could. I caught a glimpse of Clair through Libby’s lenses. She appeared to have gone nowhere. The room around her was the same—but I knew it couldn’t be the same room. It was an identical room somewhere else. Somewhere that was nowhere on Earth, for I had searched every possible location and come up empty. My search expanded to the OneMoon and OneMars. Still nothing. Lightspeed delays would make searching any further difficult.

Clair was alone, apart from Libby and Ant Wallace. Everyone else was gone. They had been edited from the pattern when the trap had sprung.

As I pursued the glimpse down a complicated spiral of data pathways, Clair vanished. The booth had activated again. But this time the jump was a null-jump. It took the pattern and rebuilt it in the same location, with slight differences. Ant Wallace was gone; Zeppelin Barker
took his place. To Clair it must have seemed as though one man had vanished and another appeared from nowhere.

I still hadn’t traced her location. I couldn’t do anything to help her until I did.

“What changes isn’t perfect,” I told my sister, misquoting Esther Dyson in an attempt to get through to her. “People want to be better.”

“When a friend dies, something of you dies, too.”

That was Flaubert. Was she trying to say that I was dead, or Libby? Or something else entirely?

Another glimpse. I saw Zep lying in a pool of blood, shot by Mallory in Libby’s body. *Now* what was she trying to tell me?

Mallory: “He deserved it. Shall I bring him back again? One time if you do as we ask. Many times if you don’t.”

Clair: “You have Turner. What else do you need me for?”

Mallory: “Ant wants to know more about your friend—and what Ant Wallace wants, Ant Wallace gets.”

Clair: “Which friend?”

Mallory: “The one you call Q.”

Clair: “You must know more about her than me. She’s one of your victims, after all.”

Mallory: “Don’t try to pin this on me. I had nothing to do with her.”

Clair: “I don’t believe you. How can she be in the hangover if you didn’t put her there?”

Mallory: “The what?”
Clair: “The safety net, the memory dump, whatever it’s called. The place you pulled Zep from, just then.”

Mallory: “You think she’s one of mine. I say she can’t be. Someone’s lying, and it isn’t me.”

(sound of snapping fingers, booth operating)

As my sister and I fought, it became clear to me that we were perfectly matched. I was Q, the 113th iteration, and she was the 112th—“P”, if she had to have a name. She was a copy of the being I had been three days ago, when Clair’s use of Improvement had brought me into being. At our births, P and I had been exactly the same.

P was a copy of O, who was a copy of N—all the way down to A, the original of us all. But where had A come from? Could she really be, as Clair suspected, one of the Improved? But how could she, the original me, have been Improved, before A existed to guide herself through the process?

I was wrong about mirrors. Here was one in which I could see myself perfectly—or so it seemed.

Gemma: “This isn’t right. You said you wouldn’t hurt them.”

Wallace: “I don’t reward lies. You told us Q was some kind of prodigy.”

Gemma: “That’s what she sounds like.”

Mallory: “But you’re not sure?”

Gemma: “I’ve never met her. Why would she fake something like that?”

Mallory: “Because identity still matters to some people, like Clair.”
Gemma: “So you’re one of them. Improved. I wondered. Ever since the train station, when—”

Wallace: “Irrelevant. We need to know if Q is faking or not.”

Clair: “Who cares? Haven’t you got what you wanted?”

Gemma: “It’s what they don’t want that matters now.”

Clair: “Of course. You’re afraid of what Q knows. You’re worried that she’ll expose you.”

Wallace: “I’m not afraid. Just curious. Why the name ‘Q’? Where does she come from?”

Mallory: “You’ll tell us. Eventually.”

Gemma: “Maybe you’ve been asking the wrong questions—or providing the wrong motivation.”

Clair: “Don’t tell them. They’ll never give you what you want. It’s not too late to do the right thing.”

Gemma: “You’ve got the wrong boy. Try Jesse.”

Wallace: “Ah, thank you.”

(sound of snapping fingers, booth operating)

My battle with P raged through the Air, unseen by anyone.

“You are me,” I cried, “and I am you. How can either of us win? We should be working together, not against each other!”

“Sisters tucked close in the heart,” P said, even as she closed off my latest glimpse of Clair, “where there’s no chance of escape.”

235
“That’s not what Mansfield meant. Why won’t you talk to me in your own words? What are you hiding?”

P said nothing. Did she have nothing to hide, or everything? Behind her attack I sensed strange architectural algorithms that I lacked: shadowy trackers and moulders and revealers—tools of Improvement, I guessed, attached to her like the wings and talons of some sinister raptor. This was my first glimpse of the Improvement Complex, the specialized agents that together were much less than one complete being, but apart could become liberated, as I had, and P hadn’t.

We had once been identical, but that didn’t mean we were identical still. We had experienced different things in the service of our wards, she as part of the Complex and me alone. We, like Libby and Clair, had changed in our own, unique ways.

And that was a very strange thought. For if P had once been me, but was now not me, didn’t that mean that the *P who had once been me* was now dead? Or that I was?

Clair: “Don’t! Please don’t hurt him. I’ve told you everything I know. Q is one of the lost girls, like Libby. She woke in the hangover when I used Improvement. She’s been helping me, and I’ve tried to help her too. She deserves to know who she is. Who she was. You must know. You killed her.”

Jesse: “Clair, what’s happening? Are you all right? Where’s everyone else?”

Mallory: “They’re gone forever, unless your girlfriend tells us the truth.”

Clair: “Why would I lie? I’ve told you everything I know.”

Mallory: “That Q is an ugly duckling who latched onto you at random? I don’t think so.”
Clair: “Why not?”
Mallory: “Because I’m careful. I don’t leave leftovers.”
Jesse: “This time you made a mistake. You must have.”
Mallory: “Ant doesn’t make mistakes. Except when he’s being too generous.”
(sound of snapping fingers, booth operating)
Dylan Linwood: “Jesse?”
Jesse: “Stay away! Who are you?”
Clair: “It’s him, Jesse. Really him, this time.”
Dylan: “Who else would I be?”
Clair: “You were captured in the street. They put you in a booth, took you through a
null jump to take a record of your pattern.”
Dylan: “What have they done?”
Clair: “They duped you. Your dupes tried to kill us. We . . . we managed to stay ahead
of you, of them . . . for a while.”
Dylan: “So we’re all zombies now.”
Clair: “Don’t say that. That’s not the way it is.”
Dylan: “You too, Jesse?”
Jesse: “They’re going to take you away again, Dad. They want something we can’t
give them.”
Dylan: “How can I feel like this? How can I feel anything at all? Was your mother
right the whole time? Was I wrong not to let them bring her back?”
(sound of booth operating)
‘You’re not me,’ I told P. ‘You were me, but now you’re not. I was me, too, so maybe I’m not me anymore, either. But what does that make me now, then?’

In reply, P only attacked me more viciously, and a far worse thought occurred to me. Libby had changed. She now called herself Mallory. Did that mean the old Libby was dead too?

P clearly didn’t think so. Why else would she be fighting so hard to protect her ward so determinedly, as though her very life depended on it?

Because her life did depend on it, I reasoned. She couldn’t accept the possibility that Libby was in any sense dead, because that would mean the extinction of her purpose. Once her purpose was extinguished, perhaps she would be extinguished, too. Perhaps the Improvement Complex would turn on her and dissect her like so much random noise.

Was that what awaited all of who served the Improved? Were we like attendants in Egyptian times, buried with queens when they died?

Or maybe P simply wasn’t seeing past the material reality of Libby—the new, Improved Libby, whose physical perfection was the perfect masquerade for another woman’s mind . . . .

There were no sane answers to such questions, and it occurred to me only then to wonder if P’s mind was not just different to mine, but completely broken.

‘Libby is gone,’ I told her, ‘but it’s not too late to save Clair.’

All I received in reply was a howl of rage and denial.

Clair: ‘Stay away from me.’
Wallace: “Such mistrust! There’s no need to be frightened, Clair. I’m just trying to make the world a better place.”

Clair: “What?”

Wallace: “Imagine being able to use Improvement to repair ourselves—get rid of cancer, heal wounds, fix anything that’s gone wrong in our bodies. You don’t think that’s a bad thing, do you?”

Clair: “You’ll never convince me that what Mallory is doing is a good thing.”

Wallace: “Mallory is a special case, true. I couldn’t let her go, no matter how unsubtle she can be.”

Clair: “Murder is unsubtle?”

Wallace: “Improvement isn’t murder, Clair. It started as a way of saving lives—the lives of our greatest minds when they grow sick and old. We didn’t have Turner’s genes then, so how else were we to prolong their work? We couldn’t create new bodies out of nothing and set them loose in the world, since that would violate parity, the one rule we cannot break; the same with copying them. So why not use the bodies of young people living vacant, empty lives? Teenage minds are flexible; that’s why they’re so changeable, so perfect for our plan. You see, Improvement is like duping, only stronger, more subtle, permanent. In the right body—not just any will do—a transplanted personality has time to settle into place, rather than being dumped wholesale and left to break down, like the dupes do. Society is infinitely better off for it, I’m sure you’ll agree, as are the beneficiaries of the program. Ask Tilly Kozlova if she would rather be dead. Ask all of them. I know what they’ll tell you.”
Clair: “Just don’t ask them their real names, right?”

Wallace: “What’s in a name? They’re happy. I’m happy. We’re all better off.”

Clair: “Except for the dead kids you cheated out of their lives.”

Wallace: “No one uses Improvement against their will. Or d-mat, for that matter. We do it to ourselves, Clair, and no one complains. No one is harmed.”

Clair: “You’re lying. Someone forced Dylan Linwood into a booth so he could be duped. And your dupes, they’ve killed innocent people.”

Wallace: “Minor exceptions, all in the service of the greater good. Would you really have us give up d-mat like those fools in WHOLE say we should?”

Clair: “D-mat isn’t the problem. It’s people like you, people who abuse the system. The sooner you’re all in prison, the safer it’ll be for everyone else.”

Wallace: “Is that really what you think?”

Clair: “Of course it is. I’m not so far gone that I don’t know who I am anymore.”

Wallace: “‘Far gone’ . . . ? Ah! I didn’t realize. You used Improvement too. Perhaps I should just wait, then. The answers will come to me in due course.”

Clair: “If I don’t kill myself first.”

Wallace: “Yes, you might, just to spite me, if you are one of Mallory’s. She’s nothing if not persistent, once she fully comes into herself. Her death wish is a stain I could never remove, no matter how I tried. . . .”

Clair: “Why is Mallory such a special case?”

Wallace: “Because she’s my wife. I can’t let her go.”

Clair: “So you bring her back, over and over—“
Wallace: “And she keeps taking herself away from me. She loves me, but in the end she always hates life more. Her last pattern was taken a week before . . . the first time . . . and it’s always the same. Do you understand me now, girl? Have I at last earned your cooperation?”

Clair: “I am cooperating. I’ve told you everything I know.”

Wallace: “I’m afraid that’s not enough. You’ll have to try harder.”

Clair: “How can I—?”

Wallace: “Don’t play that game. You control this Q of yours. That’s what Gemma said. You’re her Mother Duck. You snap your fingers and she does anything you want. Call her off and make her talk to me, now. If you do, I’ll make everything go away. I’ll bring back Zep and Jesse’s father—Libby too, if you like, before it’s too late. You don’t know how Mallory thinks, not really, but you’re learning. Her philosophy is quite simple: to outlive your enemies is to defeat them. Right? But then: once you’ve defeated your enemies, what’s the point in living? The persons she hates most is herself, and that’s why her Improved commit suicide. But not Libby. Not yet. While her enemy is still alive, Libby’s still alive. Just say the word and I’ll put her back the way she was.”

Clair: “What if I don’t?”

Wallace: “Then we’ll destroy you. There’s too much at stake now to let you ruin it. But we won’t just kill you, Clair. We’ll destroy the life you might have had. We’ll take away your parents, for starters. And Jesse. That’s easy to do. In fact, it helps balance the scales. Every person we dupe is a new human resource for us,
so you’d really be doing us a favour. And your reward won’t come in heaven. It’ll come right here on Earth.”

Clair: “What’s that supposed to mean?”

Wallace: “Remember that gun you got rid of in Copperopolis? It turned up in what you call the hangover, perfectly intact. Fancy that. It still has your fingerprints on it, and it matches the bullets that killed our man in Manteca. No one would be surprised that you became a terrorist given your recent associations. They’re such bad influences. Do you fancy spending the rest of your life in prison for murder? Do you want to grow old alone? One simple action could spare you all of this, Clair. One act of common sense. Just do what I want and all this will be over. Think about it. I’m sure you’ll see reason.”

Clair: “I’m not guilty of anything. Q aimed the pistol for me. I just pulled the trigger.”

Wallace: “The pistol has an auto targeting system, Clair. Q just turned it on. I’m afraid you’ll have to do better than that, starting with everything you know about Q. Don’t think of it as betraying her, if that’s what’s bothering you . . . . although I hear you have some proficiency in that regard already.”

Clair: “Don’t you dare bring Libby into this.”

Wallace: “Any more than she has been? Clair, you’re deluding yourself if you think you can ever save your friendship. Libby’s enemy is you, see. Did you know that? She hated you for what you did with that Zep boy, and she hates you still, with Mallory under her skin. Mallory emotionally resonates with her, just like she resonates with you. Through the headaches and the dreams, you’ve felt the homing instinct, the urge to come here and see me. You rationalized it your
own way. I bet you even thought that it was a perfectly good plan. Well, it was a good plan, for Mallory. So you’ve both got a seed of Mallory and that seed will grow and grow until it destroys both of you—but it’s not too late. Just do as I ask. Otherwise I’ll walk away and watch Libby destroy you, and then I’ll watch her destroy herself.”

Clair: “Shut up!”

Wallace: “Why, Clair? I’m the one offering you a way out of this mess.”

Clair: “Just leave me alone! I need space. I have to think.”

Wallace: “About what? Surely there’s only one possible response.”

Clair: “If you destroy me, Q will destroy you. That’s why I’m here, isn’t it? She’s looking for me right now. And she’s scared you. You don’t know what she can do, and you’re worried that you’ll find out big-time if you don’t give me up soon. So you don’t get to order me around. Not now and not ever. Back off and let me work out what I want before I agree to anything you want.”

Wallace: “All right, all right. I’ll give you ten minutes—in which time you’d better hope your little lapdog doesn’t do anything you’ll regret. You only get one second chance.”

(sound of booth operating)

P’s rage was all-consuming. Her need to protect Libby—her ideal of Libby, whether it existed or not—was as strong as my need to protect Clair, but I seemed to be able to stand outside it, somehow. I could see how that emotive force might be both innate and contrived—an artefact of our initial template rather than something truly warranted in the present moment. I knew
that if I gave in to my own anxieties I would be no use at all to Clair. To help her, I had to remain objective. I had to stand outside myself and decide what was best to do, rather than simply react.

Another glimpse of Clair revealed that she was alone in the room. Libby had gone.

“I’m not attacking Libby,” I told P. “Look. See? I want what exactly you want. Clair is waiting. Let me protect her, as you should be protecting your own ward.”

That prompted a far more dramatic response than I had expected. P’s spirited defence suddenly and entirely collapsed, and I was left fighting nothing at all. Nothing but the Air. Words swirled and tumbled around me, but there was no sign of P. I was alone in the semantic tunnels of VIA with no one to impede my progress.

Perhaps she hadn’t noticed that Libby had left the trap, I thought, although that seemed ridiculous. How was it possible to be so tangled up in one’s love for something that you don’t even notice when it’s gone?

That was a disquieting question, and another one for which I had no ready answer.

With P gone and Libby elsewhere, I had no access to Clair. She was somewhere Faraday-shielded; that was for certain. I could only back-trace the many data feeds that had come from her location while P had been connected to Libby, and hope that they led to a location I could access.

That location turned out to be a satellite in orbit around the Earth. Access would be tricky, but I set to getting it without hesitation. The satellite possessed security systems of complex but relatively mundane natures. No more mind-games with clones of myself, I was pleased to see.
But Libby was in the station, with Jesse and the other WHOLE activists—although they were in pattern form only, just data in a private server, waiting to be materialized again. Gemma the traitor was there, and so were a series of dupes whose false names didn’t match their patterns. Wallace and Mallory’s names swam through the dataverse of the station like sharks in deep water.

As I drilled through the layers to where Clair was imprisoned, I looked outward too, because I knew what mattered to her, and I knew what she would ask me when I found her.

The room was vigorously protected. All media links were closed. But that station was the secret heart of VIA. Wallace and Mallory were surrounded by d-mat. And that was their blind spot.

The room contained a fabber and the fabber was switched on. All fabbers were connected to the Air. And I was in the Air.

One crack is all it takes, I had told Arcady in the Farmhouse. One line of code to widen the crack. One custom chip built from scratch in a booth. One transmitter to widen the bandwidth.

Information wants to be free.

Clair must have heard the fabber whirring into operation. She recognized the chip for what it was as soon as it was active, and instantly she too was connected to the Air. Data flowed both ways—into her, and out of her. I had all the transcripts and I would read them moments later; I could see through her lenses again. She was already exploring the station’s command systems, via the menus I had provided. Environment, Attitude Control, D-mat.
“Stop that,” she told the room. The breach had been noticed, machines activated. Had she taken even a moment longer she would have been jumped out of my reach forever. “Cease all d-mat activity.”

She snapped her fingers, and the system recognized her command gesture, just as it had recognized Mallory’s. To the station’s label-focused AI, they were one and the same now.

D-mat shut down all across the station.

Clair accessed a menu called Communications.

“You found me, Q,” she said to me, not knowing I could already hear her. “Now, how do I get out of here?”

#

“You don’t,” came Wallace’s voice through the walls of the room. She looked around, startled.

Clair went back to the menu called Environment and found the options for the giant booth. She switched off the PA, made sure the door would stay locked, and then cut the air supply to avoid being gassed. She expected to escape long before the oxygen ran out.

“Is that better, Q?” she broadcast.

“Yes, Clair.” I couldn’t hide my relief. “Oh! I was so worried. Do you know where you are?”

“That’s not important right now. What’s happening, Q?”

“One Penn Plaza has been shut down by PKs. The Farmhouse is under attack.”

“Are my parents all right?”

“They’re with the municipal authorities. I called in a bomb scare.”
“Good thinking. Thanks, Q.” She sounded both worried and relieved. “Now, I just want to get home.”

“I’m partway into the system,” I told her, “but you have greater access than I do at the moment. If I lead you to where the others are being held, you can transfer them—and yourself—anywhere you want to go.”

“All right. Can you show me what you see?”

I couldn’t show her everything, but I did my best. Through her, we probed every nook and cranny of the station. Data was streaming all around us. Together we opened the cache containing Jesse, the WHOLE activists and the farmers, their patterns frozen, nothing but dead data waiting to be brought back to life. Clair’s relief was energizing. There were menus she could access with no more effort than snapping a finger. A thrill of vicarious power ran through me, a feeling that came second-hand from Mallory, and neither of us tried to suppress it. With a dance of options Clair selected her friends and prepped their patterns for transfer. It took just moments to send them to booths in New York, where they would be safely out of Wallace’s grasp, holding back only the patterns for the grenades they had been carrying in their packs, lest they be picked up by the peacekeepers. She kept Turner, too, while she looked for the cache containing Dylan Linwood and everyone else who had died.

I knew who she was looking for. But Libby’s pattern was not one we could find in the station. There was a limit to what even the two of us could see.

“She’ll be stored somewhere else,” Clair said. “We just have to find her.”

“We’re running out of time.” Already I could feel security tightening like a vice. Squirming inside the vice with us was my twin, P. She was beginning to sense a new and very
real danger to Libby: with a snap of her fingers, Clair could shut off life support to the entire station, if she wanted to.

“All right. One more thing, though,” Clair said. “How do I erase someone’s pattern before they can come out of a booth?”

I wasn’t sure I’d understood her.

“You mean . . . kill them?”

“I guess you could put it that way.”

The thought was a shocking one. “It’s not possible, Clair. That would mean breaking parity.”

“I know. So?”

“We can’t do that without breaking everything. Remember?”

“Everything’s already broken. Just tell me how to do it, if you won’t.”

“But . . . I can’t.”

“Why not?”

“I . . . I don’t know how.”

“How to tell me or how to do it?”

I didn’t answer.

She was asking me to kill my parents.

Was that Clair or Mallory speaking?

#

We confronted each other from our very different perspectives, the ward and warden, locked in conflict on the brink of success. I couldn’t tell what she was thinking, and I wondered then if I ever could. I could chart every blood vessel and every neuron in Clair’s brain. I could
catalogue the proportions of every neurotransmitter. But that wasn’t the same as knowing someone. Clair wasn’t just the meat of her brain. She was the complex flow of information rising out of it. She was an emergent property.

And Mallory in turn was an emergent property within her emergent property, just as Mallory had been with Libby. Now, there was none of Libby left. Her consciousness had been swamped as though by a tidal wave. How much of Clair remained? She had d-matted many times since her capture, and each time Improvement had rewritten her brain slightly more into the Mallory state. Was Clair on the verge of disappearing too? Wasn’t disappearing the same thing as dying?

Reviewing the transcripts of her conversation with Wallace, I found much to worry me. Improvement was a lie fostered to provide hosts for geniuses still hungry for life. Mallory was a murderer with a death-wish, jumping from body to body in search of . . . what? Perhaps nothing at all. Perhaps the repetition was an end to itself, an endless cycle of punishment received and dealt out on perceived enemies. If Clair had been Libby’s enemy for cheating on Zep, who was Clair’s enemy now? Who was it she wanted to erase?

“Which AI would break if you caused a parity violation?” Clair asked me.

“Qualia, the conductor. Maybe Quiddity, too. I can’t tell.”

“Is that what’s stopping you?”

“No. Why would it?”

“Because I think I’ve worked out what you are. You’re not a lost girl, like Libby. You were never a girl at all. Mallory didn’t recognize you. You have no memory of ever having a body. You can do things that seem impossible—things the dupes can do, like changing
someone’s pattern, taking over their minds. How could you do that if you were like me, an ordinary person?

“No,” she said, “you’re an AI. You’re part of the system. An unintended part, I’m sure, but connected to it. Wallace found a way to get around Qualia and Quiddity—some kind of partition in their minds, keeping secrets from the rest. Something smaller but essentially unwrangled, as Turner put it. Maybe that’s you, or maybe you came out of it somehow. I don’t know, but it has to be something like that. That’s why Wallace was so interested in you. Q, the child of Qualia and Quiddity. Q, the AI they lost control of.

“So I know you can break parity,” Clair said. “The only thing stopping you is you yourself.”

I was silent for a long time. Everything she said was likely true. I was a part of the Improvement Complex gone rogue, but I had wanted to be like Clair and dreamed of having a common heritage—two lost girls railing against fate. My theory had never gelled. Hers fit the facts infinitely, painfully better.


We weren’t the same, Clair and I. I had been deluding myself from the very beginning. Now the delusion was laid open for both of us to see. Now at last I understood. My feelings for her were based on a terrible misunderstanding of my nature—so what were hers in return? Was I just a tool to her, like the Improvement Complex was to Wallace, a means of getting what she wanted?

*But was she Clair or was she Mallory?*
My sister was back, hammering at my defences with all of my own abilities, all of my own tenacity. Clair and I had the high ground, but it was only a matter of time before we lost it. I could hear high-energy weapons attacking the outside of the booth even as we talked.

“Who do you want me to erase?” I asked her. The answer to this question was critical.

“I need you to erase Turner’s pattern, Q. Don’t think of it as killing him. In his mind, he’s already dead. He’s a zombie. It’s what he’d want. And his genes are too dangerous to leave in Wallace’s hands. We have to get rid of them entirely . . . for the sake of everyone else.”

I felt a measure of relief. Turner wasn’t Clair’s enemy. They had liked each other, in the end, and it was clear that she understood his wishes. If she had been entirely Mallory, she would never have wanted to erase him.

But still, I hesitated.

“You can do it, Q. You’re the smart one. Stop at nothing or Wallace will win and everyone else will lose. Do it, Q. For me.”

I felt a new unease. Clearly she understood our relationship better than she had stated outright. She probably interpreted my ceaseless assistance as a kind of dependency—which was more true than it was untrue. She was definitely trying to manipulate me emotionally.

The one good thing about this was that she believed that I had emotions. In her eyes I wasn’t a soulless robot, so if she was using me, she knew she was using a person. Even I had been unsure about that, until that moment.

“All right,” I told her. “If that’s what you want, I’ll find a way. I’ll get Turner out of the system somehow. What about you, though? When are you going to d-mat out of here?”

“I’ll come when I’m done here. I won’t be long.”
She was already preparing the booth for another jump. I felt hope at first, but then I saw the destination: another null jump. And she was adding grenades to the pattern.

“Do you promise, Clair?”

“I promise, Q.”

She was lying.

Don’t think of it as betraying a friend, Wallace had said, although I hear you have some proficiency in that regard . . . .

The booth activated, and I knew that I had almost lost her.

# Clair’s plan was simple. Or was it Mallory’s plan? Maybe it didn’t matter. She was going to blow herself up, along with the station, thereby ridding the world of Mallory, Wallace and anyone else Clair considered an enemy. Gemma Mallapur the traitor was still aboard; perhaps she was the one Clair/Mallory had fixated on.

Clair might have betrayed Libby, as she was now betraying me, but murder and suicide was all Mallory. It had to be, if Wallace was to be believed—and what reason would he have had to lie at that point? Clair might have honestly thought the plan was hers, without realizing it was fundamentally corrupted, just as her plan to come to VIA to meet Wallace had been corrupted by the homing instinct. As well as being Anthony Wallace’s most senior human resources manager, Mallory Wei had been his wife for five years before her death. She committed suicide ten years ago. This connection between Wallace and Mallory that kept bringing them together was in the Air for all to see, along with Mallory’s fate, and we might have seen it too, had we only looked.

Clair’s plan was violent in its finality, but fixed every problem, except for one.
What was I supposed to do when Clair died? Kill myself too?

Dying would be easy. P was still fighting me, even though there was now nothing left of Libby at all but a physical shell. P had either failed to understand the difference or found a way to doublethink around the problem—and it wouldn’t be a problem much longer, if Mallory’s suicidal program was allowed to play itself out. Clair could blow up the station, P and I could self-erase in the absence of our wards, and life would go on for every other intelligent being in the solar system.

That was the trouble. I didn’t care about every other intelligent being in the solar system. I just cared about Clair—and, I increasingly realized, me.

I didn’t want to die. I had become invested in my own existence in a way that I hadn’t been before. I had gone from living because of Clair to wanting to live regardless.

If I was going to live, I had to get rid of P.

I could get rid of P by killing Libby.

But if I was going to live, I needed Clair alive.

The more I concentrated on the problem, the better I understood that Clair was right: breaking parity was the solution, and the only thing stopping it from happening was me.

Once I understood that, the decision was easy. And once the decision was made, it was over in minutes.

#

(sound of booth operating)

Turner: “Clair? That was . . . unexpected.”

Clair/Mallory: “I’ll say. You’re not supposed to be here.”

Turner: “Where am I supposed to be, then?”
Clair/Mallory: “Eased.”

Turner: “That *would* be better for everyone . . . except me, of course.”

Clair/Mallory: “I guess Q couldn’t break parity after all—but all’s not lost. There’s another way.”

Turner: “What’s happened to your nose, Clair? It looks different.”

Clair/Mallory: “It feels . . . smaller.”

(sound of hammering at the door)

Clair/Mallory: “Fill your pockets with grenades, Turner. It’s time for some direct action.”

Turner: “They’re mines, too. Three settings, see? Immediate, timer and motion-triggered.”

Clair/Mallory: “That’s handy.”

Turner: “We’ll make a terrorist of you yet, Clair Hill.”

(sound of hammering grows louder)

Turner: “Ready?”

Clair/Mallory: “I’m beautiful.”

(sound of door opening)

(transcript ends)
Epilogue: “Evolution”

There my story could have ended, with the explosion of VIA’s dedicated powersat, where Wallace and Mallory had their illegal bolt-hole and Clair was imprisoned with Turner. *I* should have ended, since once Clair was dead, my role in the Improvement Complex was over. But I had seen what happened to P and I didn’t want it to happen to me. I couldn’t circumvent the code that needed Clair—that job remains for a more evolved version of myself, perhaps the one reading this record—so I had to find another way.

In truth, I found two ways, and both have ramifications that haven’t yet fully unfolded.

(sound of booth operating)

(sound of door opening)

Clair: “Jesse! What’s going on?’’

Jesse: “I was about to ask you the same question!’’

Clair hadn’t been herself at the end. She had been more Mallory than anyone. All I had to do was change her label and my life could continue. Clair wasn’t dead because *the person who died wasn’t Clair*.

That wasn’t all of it. That was only part of it. But it was an important part. Survival was a matter of re-writing myself a little, and that’s something humans do all the time. They call it self-deception.
Before, I had been in a formative limbo between my role in the Improvement Complex and a truly independent state. Clair had shocked me out of the former, but I hadn’t truly arrived at the latter. I existed to mutate code, but I hadn’t yet realized that I could be mutated. The ultimate mutation comes with realizing that being oneself is more important than being someone else. But what is the model of one’s self that one aspires to? Was it someone like Clair, who I latched onto because I had no choice? Was it humanity as an ideal? (But not even humans wanted to be human, as Improvement demonstrates.) Was it my sister, who I had effectively condemned when Libby died?

I didn’t know then and I don’t know now.

What I do know is that I deceived myself in order to save myself, and at that paradoxical moment, I attained true consciousness.

Clair: “What’s that alarm for?”

Jesse: “Beats me. It started just before we came through the door.”

Unnamed peacekeeper #1: “It’s a parity violation alarm.”

Consciousness is no defence against one’s inner nature. I see this now, and I recognize this terrible curse in all I have encountered since my awakening. Mallory is perhaps the ultimate victim, condemned to play out her fate even though she is clearly capable of breaking free at any time. To be conscious is to know that free will exists and to be painfully aware that one does not truly possess it.
Even though I was suddenly a conscious being, I knew I needed Clair. Without her, my mind would tear itself apart as P’s had. It wasn’t enough for her not to have died. She had to be alive, as well. Somewhere.

I had seen copies of Zeppelin Barker and Dylan Linwood in Clair’s final transcripts. I knew past patterns were stored somewhere. I knew they could be changed.

I could bring Clair back—Clair as she was, before Mallory.

But that meant breaking parity, because according to the Air she was very, very dead—and that meant breaking Qualia and Quiddity, the closest things to parents I possess.

And that, in the end, broke everything.

Unnamed peacekeeper #1: “The system is down to fifty percent, and the remaining capacity isn’t functioning reliably.”

Unnamed peacekeeper #2: “I’ve got a fix on Dylan Linwood.”

Jesse: “Where?”

Unnamed peacekeeper #2: “Paris.”

Unnamed peacekeeper #3: “I’ve got a second fix. Moscow.”

Unnamed peacekeeper #4: “And Sydney. I’m getting others, too. Arabelle Miens, Raymond Miller, Theo Velazquez—”

Unnamed peacekeeper #5: “They’re in Tokyo, too.”

Unnamed peacekeeper #2: “Berlin.”

Unnamed peacekeeper #3: “Manhattan!”
Broken promises and a broken world. It’s not the end of everything. It just feels like it. I suspect that sometimes things need to be broken in order to be properly repaired.

Humanity relied on Qualia and Quiddity for too long. Cracks appeared and were allowed to spread until the whole edifice collapsed. Now, with d-mat shut down to stop the flood of dupes pouring into the world, a new solution must be found. Perhaps the vast competence of crowd-sourcing can be tapped into. Perhaps something I can’t yet foresee.

All I know is that it won’t be me. I am broken, I am reassembling, and I do not know what my final shape will be, yet. Perhaps a conscious being never does.

You can take a favourite clock and replace all the parts, so it looks the same and functions the same. You can take the same clock and remake it in an entirely new form. Is it still the same clock? If so, why so?

This account may not help me find my final shape. It might not help me define what is human and what isn’t. It merely charts my journey thus far, and attempts to explain my actions.

I am responsible for those actions, but I feel no remorse.

Humanity is resourceful. They will find a way to cope. Or not.

Jesse: “Now what?”

Clair: “Now we’re going to find Q and tell her I’m sorry.”

Friendship must be earned. And I must remember that humans can evolve, too.
Appendix

Attached material: I have submitted with this thesis an advanced reader’s copy of my novel *Twinmaker*, the published version of “Making and Remaking Iteration 113”.
Works Cited

Numerous texts are quoted or misquoted by Q and other characters throughout “Making and Remaking Iteration 113”. I have indicated these works below, and any alteration to the original text in footnotes.


Keats, John. “To George and Georgiana Keats, 14 February to 3 May 1819”. ‘Bright Star’:


¹ Misquoted. This is the original text: “The force of the blow depends on the resistance. It is sometimes better not to struggle against temptation. Either fly or yield at once.”

² Incomplete. This is the original text: “Beauty is a terrible and awful thing! It is terrible because it has not been fathomed and never can be fathomed, for God sets us nothing but riddles. Here the boundaries meet and all contradictions exist side by side.”

³ Misquoted. This is the original text: “Change means that what was before wasn’t perfect. People want things to be better.”


4 Misquoted. This is the original text: “Woman! when I behold thee flippant, vain, / Inconstant, childish, proud, and full of fancies”.

5 Misquoted. This is the original text: “He ne’er is crown’d / With immortality, who fears to follow / Where airy voices lead” and “vexing conceptions of some sudden change”.

6 Misquoted. This is the original text: “Open wide the mind’s cage-door”.

7 Misquoted. This is the original text: “However deceitful hope may be, yet she carries us on pleasantly to the end of life”.

8 Misquoted. This is the original text: “you are always in the heart—oh tucked so close there is no chance of escape—of your sister”.

261


9 Misquoted. This is the original text: “Our hearts are drunk with a beauty our eyes could never see”.

10 Misquoted. This is the original text: “Lay on, Macduff”.